UNITED
NATIONS

Framework Convention on
Climate Change

Distr.
GENERAL

FCCC/SBSTA/1996/2
5 February 1996

Original: ENGLISH

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
Second session
Geneva, 27 February - 4 March 1995
Item 3 of the provisional agenda

ESTABLISHMENT OF INTERGOVERNMENTAL TECHNICAL ADVISORY PANEL(S)

Report by the Chairman on his informal consultations

1. At its first session, the Subsidiary Body for Scientific and Technological Advice (SBSTA) requested its Chairman to continue consultations regarding the establishment of intergovernmental technical advisory panels on methodologies and technologies (FCCC/SBSTA/1995/3, para. 29). The SBSTA also requested the secretariat to compile the submissions received from Parties by 30 October 1995 on this issue.

2. The secretariat received submissions from Fiji, Kuwait, Nigeria, Spain (on behalf of the European Community), and the United States of America. These submissions are contained in document FCCC/SBSTA/1995/MISC.3 and Add.1.

3. The Chairman conducted consultations with representatives of Parties during the second session of the Ad Hoc Group on the Berlin Mandate (AGBM), held in Geneva between 30 October and 3 November 1995. Following these consultations, the Chairman of the SBSTA made available an informal paper on 2 November 1995, during the second session of the AGBM. The informal paper suggested that a single panel be established on a provisional basis combining the functions of the two panels hitherto envisaged. It provided for the composition of the panel, the nomination process for its members, a roster of experts, the operations of the panel, and a draft programme of work.

4. Based on his consultations and further to his informal paper, the Chairman recommends:

(a) That the draft decision entitled "Establishment of an intergovernmental technical advisory panel" annexed hereto, including a work programme with provisional tasks, be considered by the SBSTA for adoption at its second session;

(b) That the secretariat proceed to invite nominations for the panel and for a roster of experts to assist with specialized tasks.

5. The annexed draft decision is based upon the informal paper distributed by the Chairman during the second session of the AGBM. The chapeau of the informal paper is embodied in paragraph (1) of the draft decision and a new paragraph (6) has been added which authorizes the convening of four meetings during the period 1996-1997. In several cases, the order of the material has been altered to improve the structure of the paragraphs.

6. The work programme is essential to the establishment of the panel. Therefore, Parties should carefully consider its elements, deadlines, and products. The list of provisional tasks that may be considered for a work programme was developed for the period up to the third session of the Conference of the Parties (COP 3), bearing in mind the decisions of COP 1, the AGBM process, and the special needs of the Parties for information on methodologies and innovative and environmentally sound technologies. This list does not follow a particular order of importance or urgency.

7. The work programme that the SBSTA adopts should reflect the most important needs of the Convention bodies, as well as the limited resources and the relatively short period in which to carry out the work. Parties may wish to limit the work programme initially to just a few (for example, 3-5) methodological and technological tasks, with others addressed as part of a long-term programme, if the panel is made permanent. In this regard, Parties should note that several of the provisional tasks, particularly Nos. 4, 5, and possibly 6 and 8, are related to potential revisions of guidelines and methods for preparing national communications (FCCC/SBSTA/1996/3/Add.1). The SBSTA may wish to take into account that information from these tasks would be needed by the fourth session of the SBSTA, at the latest, since this will be the last session at which the SBSTA may adopt technical modifications to the guidelines and methods for national communications due in April 1997. Elements Nos. 1, 2 and 7 represent a deepening of the technology inventory and assessment activities initiated by decision 13/CP.1.* In considering these potential activities, Parties may wish to refer to the discussion contained in the initial report prepared by the secretariat on the technology inventory and assessment (FCCC/SBSTA/1996/4). The report identifies questions concerning the use of information on technologies that may be helpful in considering priorities. Furthermore, the priority of task 3 on the technological aspects of policy guidance to the Global Environment Facility (GEF), needs to be assessed.

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* For decisions adopted by the Conference of the Parties at its first session, see document FCCC/CP/1995/7/Add.1.

8. Elements Nos. 2 (a), 10 and 11 were included in the list with the expectation that the Parties would identify special topics of particular interest during discussions at the third session of the AGBM or at the second session of the SBSTA on the Second Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and the in-depth review reports. As with the topics identified above, Parties should carefully consider whether the aspects of the IPCC report and the in-depth review reports would be appropriate for immediate or longer term consideration by the panel, and, if so, what aspects should be dealt with.

9. Some other aspects of the operations of the panel would need to be addressed:

(a) At its third session, the SBSTA would have to consider a proposal by its Bureau regarding a list of nominees before a formal meeting of the panel could be held. However, it would be desirable for the panel to hold an informal organizational meeting before that session, so that a preliminary report could be made available for COP 2. The secretariat could begin to transmit relevant information to the nominees as soon as they are identified by the Bureau;

(b) There is a provision of about US$250,000 annually for the panels in the budget of the Trust Fund for Participation in the UNFCCC Process. This figure was based on two panels of which 10 members would be funded for two meetings per year, or a similar combination. It was also assumed that meetings would take place outside the sessions of the SBSTA or the COP. However, some tasks, such as reviewing reports, could be undertaken without the need for meetings and all possible means would be utilized to communicate information among the members outside the meetings. The adequacy of this provision will need to be reviewed once decisions are taken on the number and frequency of panel meetings, participation therein, and the tasks to be performed;

(c) With respect to the way in which the panel will be organized, there are several aspects to be considered. First, the panel would report to the SBSTA and the tasks it undertakes would be those identified by the SBSTA. Second, the panel should be responsible for the technical content of its reports and how they are produced. In this context, the panel would act independently. Finally, the panel may need to function in different modes. On occasion, for instance, the panel may simply review and comment on reports prepared by others; at other times, it may review information from various sources and prepare its own report. An example of the former could be the IPCC inventory methodologies, while an example of the latter could be an assessment of non-grid electrical supply systems for Parties not included in Annex I;

(d) Whether the panel would make "recommendations" to the SBSTA would depend upon the needs of the SBSTA. The SBSTA may wish to specify whether it prefers to receive a synthesis report, options, recommendations, or any other form of information. In all cases reports would be advisory and it would be for the SBSTA to decide how to use them.

Annex

DRAFT DECISION OF THE SBSTA

Establishment of an intergovernmental technical advisory panel

The Subsidiary Body for Scientific and Technological Advice,

Recalling the relevant provisions of the United Nations Framework Convention on Climate Change, in particular, Articles 9 and 4.1(c) and (e),

Pursuant to the relevant decisions of the Conference of the Parties at its first session, in particular, decisions 3, 4, 5, 6 and 13, and to the relevant conclusions of the Ad Hoc Group on the Berlin Mandate (FCCC/AGBM/1995/2/conclusions (j),(k) and (l)),

1. *Decides that:*

(a) An intergovernmental technical advisory panel on methodologies and technologies is hereby established on a provisional basis, functioning under the terms of reference of the Subsidiary Body for Scientific and Technological Advice, decision 6/CP.1. It will implement the initial programme of work, on the basis of the list of tasks attached hereto. The future operations of the panel will be reviewed by the Subsidiary Body for Scientific and Technological Advice in 1997. The members of the panel will serve for the period leading up to the third session of the Conference of the Parties; they will be technical and scientific experts, advising in their personal capacities;

(b) The panel shall be composed of twenty experts: two from each of the five United Nations regional groups, five from Annex I Parties, and five from non-Annex I Parties. The panel shall be co-chaired by two of its members, one from the Parties listed in Annex I to the Convention and one from the non-Annex I Parties;

(c) Each regional group shall identify two Parties to propose one or more experts for the panel, taking into account the initial work programme. The Annex I and non-Annex I Parties may either identify Parties from their respective groups to propose one or more experts or they may directly propose experts for the panel. A full curriculum vitae of each proposed expert shall be provided. The Bureau of the Subsidiary Body for Scientific and Technological Advice shall propose a list of experts as members of the panel, for consideration by that subsidiary body, taking into account the need for representation of the different areas of expertise, bearing in mind the work programme, and, as necessary, consulting with the Parties and/or groups of Parties;

(d) The terms of the panel members may be extended, taking into account the need for stability, the need to rotate members, and the review by the Subsidiary Body for Scientific and Technological Advice in 1997;

(e) A roster of experts, nominated by Parties, shall be maintained for specialized tasks that cannot be undertaken by panel members. Each Party may nominate up to ten experts for the roster and will provide a full curriculum vitae of each nominee;

(f) The panel shall organize its own work to address the work programme, within the limits of the resources available. The panel may seek advice from other competent international bodies to facilitate its work. Reports from the panel shall be advisory; they will be circulated to all Parties prior to their consideration by the Subsidiary Body for Scientific and Technological Advice. The panel shall operate in a cost-effective manner, taking advantage of all possible means to communicate among members and to facilitate its work.

2. *Authorizes* its Bureau to convene an initial informal panel meeting, as soon as practicable before its third session, recognizing that all nominees are subject to confirmation at that session, and further authorizes two meetings of the panel to be held in both 1996 and 1997.

3. *Notes* that funding for participation in the panel meetings shall be offered to expert participants from eligible Parties in accordance with normal practice and subject to the availability of resources.

Annex to the draft decision

TASKS FOR AN INITIAL WORK PROGRAMME

This work programme responds to decisions of the first session of the Conference of the Parties, and to the conclusions of the Ad Hoc Group on the Berlin Mandate (AGBM) and the Subsidiary Body for Scientific and Technological Advice (SBSTA). The list is provisional and may be modified at future sessions of the SBSTA. The SBSTA is invited to indicate priorities within this list by filling in the column "possible deadline", and to further specify expected products. The future operations of the panel will be reviewed by the SBSTA in 1997.

Task/Subject	Mandate	Possible deadline	Product
1. Technology inventory	13/CP.1 6/CP.1		Report
2. Assessment of specific innovative technologies for: (a) Needs identified by the AGBM (b) Annex I Parties (e.g., transport) (c) Non-Annex I Parties (e.g., non-grid electrical supply systems) (d) All Parties · Use of renewables · Enhancing the capacity of sinks	AGBM/1995/2, conclusion (l) 13/CP.1 6/CP.1		Reports
3. Technological aspects of policy guidance to the Global Environment Facility	11/CP.1		Report
4. Intergovernmental Panel on Climate Change inventory methodologies for all sources and sinks	6/CP.1 4/CP.1		Technical recommendations
5. Technical aspects of national communications (e.g., statistical adjustments, electricity transfers)	3/CP.1 4/CP.1		Technical recommendations for national communications
6. Technical aspects of activities implemented jointly	5/CP.1		Report
7. Adaptation technologies and processes	13/CP.1		Report

Task/Subject	Mandate	Possible deadline	Product
8. Methods for projecting and estimating the effects of measures (on national emissions) *	6/CP.1 4/CP.1		Draft guidance document (as appropriate models and measures)
9. Information on terms under which transfer of technology could take place	13/CP.1		Report
10. Aspects of the Second Assessment Report of the Intergovernmental Panel on Climate Change, as indicated by the SBSTA	4/CP.1 AGBM/1995/2, conclusion (j)		Report
11. Aspects of national communications and in-depth reviews as indicated by the SBSTA	AGBM/1995/2, conclusion (k)		Report

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* On the assumption that the IPCC focuses on aggregate effects of global measures.

UNITED NATIONS

Framework Convention on Climate Change

Distr.
GENERAL

FCCC/SBSTA/1996/3
13 February 1996

Original: ENGLISH

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
Second session
Geneva, 27 February - 4 March 1996
Item 5 (a) (iii) of the provisional agenda

NATIONAL COMMUNICATIONS

COMMUNICATIONS FROM PARTIES INCLUDED IN ANNEX I TO THE CONVENTION

Report on the guidelines for the preparation of first communications by Annex I Parties

Note by the secretariat

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 11	3
A.	Mandate	1	3
B.	Scope of the note	2 - 5	3
C.	Possible action by the Subsidiary Body for Scientific and Technological Advice	6 - 11	4
II.	EXPERIENCE WITH THE GUIDELINES	12 - 48	5
A.	Introduction	12 - 14	5
B.	Coverage	15	6
C.	Cross-cutting issues	16 - 19	6
D.	Greenhouse gas inventories	20 - 27	7

		Paragraphs	Page
E.	Policies and measures	28 - 31	9
F.	Projections and assessment of effects of measures	32 - 39	10
G.	Vulnerability assessment and adaptation measures	40	12
H.	Finance and technology	41 - 45	12
I.	Research and systematic observation	46	13
J.	Education, training and public awareness	47	13
K.	National circumstances/basic data	48	14

I. INTRODUCTION

A. Mandate

1. The present note has been prepared pursuant to the conclusion adopted by the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its first session by which it decided to return to the further development of guidelines for the preparation of national communications from Annex I Parties at its second and later sessions (FCCC/SBSTA/1995/3, para. 33 (d)). The Conference of the Parties, at its first session (COP 1), by its decision 3/CP.1,* also requested the secretariat to prepare a report on the guidelines for the preparation of first communications by Annex I Parties for consideration by the SBSTA and by the Subsidiary Body for Implementation (SBI) before the second session of the Conference of the Parties (COP 2).

B. Scope of the note

2. The scope of the present note is limited to a presentation of initial experience with the guidelines for the preparation of first communications by Annex I Parties (annex to decision 9/2, A/AC.237/55) (hereafter referred to as "the Guidelines"). The initial paragraph of the Guidelines sets out their three principal purposes, of which the first and third are, respectively, to assist Annex I Parties in meeting their commitments under Articles 4 and 12 of the Convention, and to ensure that the COP has enough information to carry out its responsibilities to review the implementation of the Convention and the adequacy of the commitments in Articles 4.2(a) and (b). In this note, however, the main focus for the secretariat has been the second purpose of the Guidelines, which is "to facilitate the process of considering the national communications, including the preparation of useful technical analysis and synthesis documentation, by encouraging the presentation of information in ways that are consistent, transparent and comparable". This approach is in line with decision 3/CP.1, which requests the secretariat to prepare a report on the Guidelines with a view, among other things, to further enhancing the comparability and focus of the communications. In keeping with the division of labour between the SBSTA and the SBI, as indicated in document FCCC/SB/1995/INF.1, this note is intended for discussion in the SBSTA. Any policy aspects that may arise from its consideration in the SBSTA may be brought to the attention of the SBI.

3. This note identifies areas where the recommendations contained in the Guidelines were in general closely followed, or, on the contrary, where there were noticeable data gaps. It also explores some possible options for overcoming the difficulties noted above and for enhancing the comparability of the information communicated. In some instances, even where the recommendations in the Guidelines were followed, the information provided was

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* For decisions adopted by the Conference of the Parties at its first session, see document FCCC/CP/1995/7/Add.1.

not comparable because of its very nature. The present note draws on the first compilation and synthesis of national communications from Parties listed in Annex I to the Convention (A/AC.237/81), preliminary information from national communications not considered in the first compilation and synthesis (FCCC/1995/INF.4 and FCCC/CP/1995/INF.4/Corr.1), the in-depth reviews carried out to date and the elements of the second compilation and synthesis report of national communications from Annex I Parties (FCCC/SB/1996/1).

4. The present document does not consider the issue of the scheduling of second national communications by Annex I Parties, which, under decision 3/CP.1, are due to be submitted to the secretariat by 15 April 1997 (except for second communications from Parties called upon to submit their first communication during 1996, which may be exempt from this requirement). Nor does this document attempt to discuss or summarize the specific scientific, methodological and technical issues arising from the Guidelines for National Greenhouse Gas Inventories and Technical Guidelines for Assessing Climate Change Impacts and Adaptations adopted by the Intergovernmental Panel on Climate Change (IPCC); but it notes that a separate process for the consideration of possible improvements is under way in the IPCC (see the note by the secretariat on cooperation with the IPCC (FCCC/SBSTA/1996/6)). Lastly, it does not consider the issue of appropriate adjustments to the Guidelines and procedures for national communications for Annex I Parties with economies in transition (FCCC/CP/1995/7, para. 47).

5. The material in this report is organized according to the sections of the Guidelines themselves. For each section, there is first a discussion of how the Guidelines were followed, with an analysis of the patterns observed, and, secondly, if relevant, the presentation of suggestions to enhance comparability. The secretariat is mindful of the fact that data are not always readily available, and that further data collection can be resource intensive. It has endeavoured to take this into account in presenting the options. In addition, suggestions are made for the modification of the Guidelines in order to update them and ensure consistency with COP 1 decisions taken after the Guidelines were agreed by the Intergovernmental Negotiating Committee.

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

6. The SBSTA may consider the present note, and in particular the suggestions contained in the paragraphs headed "Discussion" in section II below.

7. The SBSTA may also invite Parties to submit views on possible revisions to the Guidelines no later than 15 April 1996. Such submissions may, for example, describe tables to be added to the Guidelines in order to facilitate the presentation of information and enhance the comparability and focus of communications, specifying the type of information to be included in the tables.

8. In document FCCC/SBI/1996/5, it is suggested that, in order to assist the SBSTA with the revision of the Guidelines, the SBI may clarify what information it needs on the transfer of technology. In addition, the SBSTA may invite the SBI to indicate whether the other information communicated in accordance with the Guidelines is adequate for it to carry out its tasks, and, if not, to indicate its needs in this respect.

9. The SBSTA may consider whether it wishes to revise the Guidelines so that existing recommendations become clearer and/or that the information currently communicated becomes more comparable and focused. If so, the SBSTA could request the secretariat to prepare a document on possible modifications to the Guidelines, taking into account the submissions by Parties, and the discussions that took place and conclusions reached at the second sessions of the SBSTA and the SBI, for consideration at the third session of the SBSTA, with a view to presenting a recommendation to COP 2 for the adoption of revised guidelines. It would be helpful to the secretariat if the SBSTA, in making such a request, would identify what kind of revision the secretariat should envisage in its preparation of the relevant documentation, including the design of possible tables for the presentation of information. In order to give Parties sufficient time to prepare their second national communications by the deadline of 15 April 1997, any revisions to the Guidelines would have to be decided upon at COP 2.

10. The SBSTA may recall that decision 3/CP.1 requests the SBSTA, in the context of its work on methodological issues arising from the national communications, to consider the use of relevant statistical adjustments. In the event that an intergovernmental technical advisory panel is established, the SBSTA may consider including this task as a priority item for such a panel. Alternatively, it may request the secretariat to prepare documentation on the matter for consideration by the SBSTA at a future session. It would be helpful if this methodological issue could be resolved in time to be reflected in any revision to the Guidelines. Should this not be possible, it would be important that the Guidelines request that the relevant information be reported in a transparent manner, with clear indications of the method followed, and with both adjusted and unadjusted data (see also paragraph 37 below).

11. The SBSTA may also recall that, under decision 4/CP.1, the SBSTA and the SBI should address the issue of the allocation and control of emissions from international bunker fuels and report on this work to COP 2. The SBSTA may consider addressing this issue in a similar manner to the issue on statistical adjustments outlined above.

II. EXPERIENCE WITH THE GUIDELINES

A. Introduction

12. The paragraphs below indicate general findings on the experience with the Guidelines, so certain findings may not apply to all Parties. In preparing this document, the secretariat has sought to incorporate the views provided by the experts from Governments and

intergovernmental organizations who participated in the preparation of the first compilation and synthesis of national communications from the Parties listed in Annex I to the Convention (A/AC.237/81). It is in the nature of the present exercise to focus on shortcomings in the national communications. Readers should be aware that any negative impression that may arise would be unwarranted in view of the detailed analysis and research underlying the communications and of the efforts involved in preparing them.

13. There are mixed findings on the extent to which the recommendations contained in the Guidelines were followed. Recommendations on the sections relating to vulnerability assessment and adaptation measures, research and systematic observation, and education, training and public awareness were closely followed in general. The recommendations on policies and measures and on projections were less well followed.

14. The in-depth review process may also contribute to the process of learning, as the review teams request additional information, particularly on areas of the communications that they consider are not completely clear. The in-depth review reports also discuss explicitly the question of how closely the Guidelines were followed.

B. Coverage

15. The section of the Guidelines on "Coverage" deals with the scope of the communications, requesting, *inter alia*, that communications should "address all anthropogenic emissions and removals of all greenhouse gases not controlled by the Montreal Protocol". The coverage of gases was most extensive in the section on "Inventories", while the sections on "Policies and measures" and on "Projections and assessment of effects of measures" tended to focus on the three main greenhouse gases, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). In a number of cases, a communication has dealt solely with CO_2.

C. Cross-cutting issues

Findings

16. The seven paragraphs in the section on "Cross-cutting issues" identify some issues that relate to all gases, to all sectors or to inventories, policies and measures, and projections alike. As a general rule, the recommendation to present data on inventories and projections on a gas-by-gas basis was followed. Emissions from sources were listed separately from removals by sinks. A number of Parties chose to use global warming potentials (GWPs) to reflect their inventories and projections in carbon dioxide-equivalent terms. Paragraph 6 of the Guidelines requests Parties to use the year 1990 as the base year for inventories, and refers to the possibility for Annex I Parties with economies in transition to seek "flexibility" in this regard. Two Parties in that situation have not provided greenhouse gas inventory data for 1990, although the Guidelines note that the provisions of Article 4.6 are relevant in this context. In addition, the Guidelines recommend that Parties use 2000 as a common reference

year for projections. One Party, in providing projections, used another reference year instead. Although the level of uncertainty associated with inventory and projections data and underlying assumptions should be clarified in the national communications, this did not always happen.

Discussion

17. In paragraph 5, the Guidelines recommend that "while awaiting updated information from the IPCC, any use of GWPs should be based on the direct effects of the greenhouse gases over a 100-year time horizon" and note further that "this is only the initial focus and, for future communications, indirect effects of other greenhouse gases will have to be looked at, as far as scientific understanding allows." Decision 4/CP.1 recommends that if Parties choose to use GWPs to reflect their inventories and projections in carbon dioxide-equivalent terms, "the 100-year time-horizon values provided by the Intergovernmental Panel on Climate Change in its 1994 Special Report should be used." These values were used in the preparation of the first compilation and synthesis of communications from Annex I Parties. The SBSTA may consider whether to adopt the recommendation that Parties choosing to use GWPs should use the proposed values, in keeping with decision 4/CP.1.

18. Paragraph 7 of the Guidelines refers to the possible provision of greenhouse gas inventory information for years subsequent to 1990. Decision 3/CP.1 requests Parties to submit national inventory data on an annual basis; "(where appropriate, updated) for the period 1990-1993 and, where available, for 1994 ... by 15 April 1996; data for subsequent years should be provided annually on 15 April, following the same principles". The SBSTA may consider recommending that paragraph 7 be updated to reflect these elements of decision 3/CP.1.

19. Paragraph 8 takes up the issue of the reference year for projections. In view of the time period specified in Article 4.2(a), data should be provided for the year 2000, and Parties are encouraged to include projections, if possible on a quantitative basis, that go beyond the year 2000. The SBSTA may consider recommending that Parties should provide data for years beyond 2000, such as the years 2005, 2010 and 2020, as referred to in decision 1/CP.1.

D. Greenhouse gas inventories

Findings

20. There are fairly detailed recommendations in the Guidelines for reporting on greenhouse gas inventories, to which must be added the recommendations contained in the IPCC Draft Guidelines for National Greenhouse Gas Inventories. Parties provided good coverage of gases when reporting inventory information, typically providing data for CO_2, CH_4, N_2O, non-methane volatile organic compounds (NMVOCs), carbon monoxide (CO) and nitrogen oxides (NO_x). Some Parties also provided data for the other greenhouse gases. Only a few Parties, however, provided inventory data for removals of CO_2 by sinks.

21. According to the Guidelines, Parties should use the IPCC Draft Guidelines for National Greenhouse Gas Inventories, unless they choose to use an established and comparable methodology, in which case they should include sufficient documentation to back up the data presented. In many cases, Parties chose to adapt the IPCC methodology to reflect their national conditions more clearly. In several cases, they used other methodologies for reporting their emissions, in particular the CORINAIR methodology. Inventories calculated by other methods do not necessarily generate the same results as those derived with the IPCC methodology, with the resulting implications for comparability of data. Some Parties, however, have made commendable efforts to convert CORINAIR results into IPCC formats. Emissions from bunker fuels were in almost all cases reported separately from totals, although some Parties noted that there were difficulties in separating the emissions from domestic and international activities.

22. Nevertheless, in a number of cases, the inventory information in the national communications could be improved, in particular in terms of transparency, as follows:

(a) Explanations of emission factors that differed from IPCC default values were not always provided;

(b) Standard data tables were not always used for presentation;

(c) When the IPCC methodology was not used, information related to the methodology followed was not always provided;

(d) Data gaps were not always explained; and

(e) Uncertainty ranges for point estimates were rarely provided.

23. In a few instances, during the in-depth review, it was apparent that some of those deficiencies had arisen as a result of financial or time constraints in preparing inventory information. In most cases, however, Parties were ready to provide full information, allowing for verification of data and reconstruction of inventories, although this material had not been included in the communications themselves, possibly because it was thought to be too voluminous or because of the technical nature of the documents concerned.

24. The land use change and forestry source category was problematic in many cases. Scientific uncertainties and difficulties in data collection give rise to low confidence in the figures and led to lack of comparability among countries owing to differences in coverage. During the in-depth reviews, in some cases, the figures originally submitted were revised significantly, both for stocks, where reported, and for increments. Methodological difficulties were also discussed during the in-depth reviews, for example, in the case of definitions of anthropogenic activities.

Discussion

25. The SBSTA may consider the possibility of including in any revisions to the Guidelines the recommendation that Parties listed in Annex I to the Convention should incorporate additional relevant background information, which would not be part of the official national communication, but would be submitted at the same time. Such information could include documentation on disaggregated emission factors and activity data, and other relevant assumptions. Providing such documentation in addition to the national communication may not require a great deal of extra work to be done by the Party concerned, since the data are often already contained in a study, or series of studies, on which the chapter on inventories in the national communication has been based.

26. In addition to modifications to enhance comparability, the SBSTA may consider updating information in the Guidelines. For instance, in paragraphs 12 (two references), 13, 14 and 19, the SBSTA may consider recommending that the title "IPCC Draft Guidelines for National Greenhouse Gas Inventories" should be amended to "Guidelines for National Greenhouse Gas Inventories and Technical Guidelines for Assessing Climate Change Impacts and Adaptations adopted by the Intergovernmental Panel on Climate Change", to ensure consistency with decision 4/CP.1.

27. If the SBSTA wishes to recommend that the title "IPCC Draft Guidelines for National Greenhouse Gas Inventories" should be amended to "Guidelines for National Greenhouse Gas Inventories and Technical Guidelines for Assessing Climate Change Impacts and Adaptations adopted by the Intergovernmental Panel on Climate Change", as outlined in paragraph 26 above, it might also consider removing paragraph 14 of the Guidelines altogether as it would become redundant.

E. Policies and measures

Findings

28. In general, policies and measures were reported on a gas-by-gas basis, although they were sometimes described by sector. Policies and measures focused primarily on CO_2 although other gases, such as CH_4 and N_2O, were discussed as well. Difficulties in discussions on CO_2 were noted with regard to sequestration by sinks and to policies and measures in the land use and forestry sectors. It was not always clear which policies and measures were the most important, in part because they were not described in sufficient detail.

29. With regard to the recommendation in paragraph 20 of the Guidelines on transparency of policies and measures, in general the national communications did not provide adequate information on the "degree of implementation" of individual policies and measures. For example, there were ambiguities with regard to the legal status of different policies and measures, uncertainty associated with the political process on which their implementation rests and the status of funding of these policies and measures. On the whole, adequate

information was not provided on how the greenhouse gas effects of policies were to be "monitored over time". Subparagraphs (d) and (f) of paragraph 20 further stress the importance for transparency of providing information on the "status of implementation" and "intermediate indicators of progress for policies and measures". The experience from in-depth reviews suggests that information on the degree of implementation is available, but that in some cases monitoring mechanisms were not in place.

Discussion

30. The SBSTA may consider the possible inclusion in the Guidelines of a standard table for summarizing information in each communication on policies and measures. The table could include basic information to be provided for each policy or measure, such as the type of policy instrument (for example, economic instrument, regulation or guideline, voluntary agreement, and action on information, education and training), the status of the funding of the policy or measure, its legal status and an estimate of its mitigation impact. So far, some of this information has been reported by Parties in their communications. If Parties were requested to complete all the fields in such a table, however, this would ensure that a minimum amount of information of the same type was provided by all Parties, thereby facilitating comparison and subsequent analysis.

31. In the first compilation and synthesis, it was noted that policies and measures were described in varying degrees of detail, and that references to the number of policies and measures did not reflect the relative importance of these in terms of their mitigation potential. This drawback could be overcome, to some extent, if all Parties provided information on emissions reductions potential and on the effects of individual policies and measures which only a few Parties included in their first communications (the issue of effects of policies and measures is discussed in the next section). If quantitative information is not available on the effects of individual policies and measures, an alternative may be to rank individual policies and measures according to their relative importance in terms of greenhouse gas mitigation. Furthermore, during the in-depth reviews carried out so far, the overall policy context and economic and institutional framework have emerged as central to an understanding of the policies and measures implemented by a Party. While a number of communications describe the policy context in general terms, the SBSTA may consider encouraging, through the Guidelines, the submission of information related to the economic and institutional framework. Such information could include, for example, data relating to key sectors, such as energy prices, energy taxes, agricultural subsidies, and information on the market structure in electricity, natural gas, coal and oil markets.

F. Projections and assessment of effects of measures

Findings

32. Projections followed the recommendations in the Guidelines to incorporate only the effects of policies and measures implemented or committed to at the time the communication

was prepared, and to provide, at a minimum, projections of emissions of CO_2, CH_4 and N_2O. Different methodologies, however, were followed for estimating the projections of different greenhouse gases. The findings below are particularly relevant for the projection of CO_2 emissions.

33. Paragraph 28 of the Guidelines requests Parties to provide "estimates of the effect of individual policies and measures" wherever possible. In many cases this type of information was not provided. If this information was provided, it did not always cover all individual policies and measures, and discussions of the method used to arrive at the estimates were not provided.

34. Paragraphs 29 - 31 of the Guidelines contain some additional recommendations for reporting information on projections, *inter alia*, to ensure transparency. The projections analyses presented in the communications were not invariably transparent, and it was not always possible for "a third party to obtain a qualitative understanding of the model(s) and the approach(es) used and their relationship to each other" (see paragraph 29 (b) of the Guidelines). The strengths and weaknesses of the models used were generally not summarized, and the results of sensitivity analyses were not often provided.

35. In many cases, during the in-depth reviews, these gaps were filled in to the satisfaction of the in-depth review teams. Often key documentation for understanding the projections models was available, but did not form part of the official submission of the Parties concerned. During in-depth reviews it was also noted that although the Guidelines merely *encourage* Parties to present the findings of sensitivity analysis, such information helps to ensure transparency.

Discussion

36. As a result of the in-depth reviews carried out so far, some of the missing information was made available and was provided to the in-depth review teams during the country visits. In several cases they noted that the material should, to the extent possible, be provided as part of the submission. As the information is often fairly voluminous, the SBSTA may consider recommending to the Parties that they should include technical documents containing this information as background documentation for submission to the secretariat; they would not, however, constitute part of the national communication itself.

37. When projections analysis was undertaken, adjustments to base year emissions were made in three cases, for climate variations or trade patterns in electricity. The conclusion reached in both the in-depth reviews and the first compilation and synthesis was that, if carried out, any such adjustments should be reported in a transparent manner, with clear indications of the method followed, and with both adjusted and unadjusted data (see also paragraph 10 above).

38. Transparency would be enhanced if a more detailed indication was provided of how measures are reflected in the emissions projections. Furthermore, the exact methods of estimating the effects of measures need to be explained clearly and in detail.

39. Subsequent communications could also address the question of time perspectives in models, that is, the question of whether the same models or approaches are used for making projections for 2000 as for 2005, 2010 or 2020. They could also address the question of whether the same models or approaches are used to estimate the effects of measures as to develop greenhouse gas estimates.

G. Vulnerability assessment and adaptation measures

40. The Guidelines for reporting on these items are not demanding; they consist of only one sentence. The secretariat noted that the definition of what constitutes an adaptation measure was not completely clear. The first compilation and synthesis found that recommendations were followed in general, although in many instances Parties reported on few, if any, adaptation measures under way. It was clarified during the in-depth reviews that in some cases this was because no such adaptation measures were under way. Actions related to scientific research on adaptation, however, were reported in the communications.

H. Finance and technology

Findings

41. In accordance with decision 13/CP.1, the secretariat has prepared an itemized progress report on concrete measures taken by the Parties listed in Annex II to the Convention with respect to their commitments related to the transfer of environmentally sound technologies and the know-how necessary to mitigate and facilitate adequate adaptation to climate change (FCCC/SBI/1996/5, annex). This document will be considered by the SBI at its second session.

42. The above-mentioned document considers both information contained in national communications and additional information provided during in-depth reviews on finance and technology, and the issue of possible revisions to the section of the Guidelines pertaining to technology transfer. The detailed discussion on technology transfer is not reproduced here, but, in the interests of complete coverage, the present section recalls some of the general findings of document FCCC/SBI/1996/5, as well as raising some other issues of potential interest to the SBSTA.

43. Recommendations on finance in the Guidelines are not lengthy, advising Annex II Parties to provide information on contributions to the operating entity or entities of the financial mechanism, financial resources provided through bilateral, regional and other multilateral channels for the implementation of the Convention, expected future resource allocations and any other appropriate information. Most Parties did provide information on

contributions to the pilot phase of the Global Environmental Facility (GEF) and its first replenishment, although some further specified amounts contributed to core financing and cofinancing. Information on bilateral, regional and other multilateral assistance was provided, although in some cases Parties included amounts that had been allocated for environmental projects in general, and not specifically for climate change. Where the funds were allocated to climate change projects, it was not always clear whether these aimed at mitigation or adaptation.

44. The section of the Guidelines on technology transfer is very general in nature and easily subject to different interpretations by the Parties. As a result, the information contained in Annex II communications differs considerably in format, comprehensiveness and detail. Moreover, discussions held during the in-depth review visits revealed that more information was available than was provided in the communications. Finally, most Annex II national communications focus on activities supported by Governments rather than those of the private sector. Consequently, the full picture of technology transfer activities is not available at the present stage.

Discussion

45. For the purpose of ensuring comparability of information on financial contributions, the SBSTA may consider the possibility of recommending that a table on financial contributions be added to the Guidelines, for completion by Parties. This table would not include much more information than is already requested in the Guidelines, but would facilitate the presentation of data. It might distinguish between contributions through the GEF - within and outside the financial mechanism - and those in the form of official development assistance, with a further separation of data into bilateral, regional and multilateral channels. An additional distinction could be made between funds specifically targeting climate change and those that target environmental objectives in general.

I. Research and systematic observation

46. All Parties included some discussion of research and systematic observation in their communications, which followed the recommendations in the Guidelines. The information often appeared under several chapters of the communications, including, for instance, on vulnerability assessment and adaptation measures. The Guidelines indicate that information on research and systematic observation could include information on technology research and development. When provided, such information has tended to focus on government activities rather than on those of the private sector.

J. Education, training and public awareness

47. All Parties included some discussion of education, training and public awareness in their communications. Generally speaking, the information given followed the recommendations in the Guidelines. Slightly weaker coverage was provided on actions undertaken to implement commitments under Article 6(b). Only a few Parties reported on

the extent of public participation and involvement, either in the process of formulating policies and national strategies or in the preparation of the communication. In-depth reviews revealed that the communications did not cover the plethora of activities and initiatives undertaken by municipalities and non-governmental organizations.

K. National circumstances/basic data

48. This section was well documented in the communications, and further information was invariably provided during the in-depth reviews. It proved to be an important section of the communications, in particular for highlighting special features that affected implementation of commitments. In addition to the data suggested in paragraph 41 of the Guidelines, Parties also communicated information on export patterns, especially of energy-intensive products; the composition of domestic energy supply, indicating the respective proportions generated by nuclear and hydroelectric power; the overall policy context, including information on any interministerial committees for climate change; and facts on the political and institutional structure that might affect implementation, such as the process of drafting and enactment of legislation.

UNITED NATIONS

Framework Convention on Climate Change

Distr.
GENERAL

FCCC/SBSTA/1996/4
2 February 1996

Original: ENGLISH

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
Second session
Geneva, 27 February - 4 March 1996
Item 7 of the provisional agenda

TECHNOLOGY INVENTORY AND ASSESSMENT

Initial report on an inventory and assessment of technologies to mitigate and adapt to climate change

Note by the secretariat

CONTENTS

		Paragraphs	Page
I.	INTRODUCTION	1 - 8	3
	A. Mandate	1- 4	3
	B. Scope of the note	5 - 7	3
	C. Action by the Subsidiary Body for Scientific and Technological Advice	8	4
II.	STEPS IN THE PREPARATION OF THE PRESENT REPORT	9 - 12	4
III.	GENERAL RESULTS CONCERNING SOURCES OF INFORMATION	13 - 18	5

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		Paragraphs	Page
IV.	ISSUES THAT THE SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE MAY CONSIDER . .	19 - 29	9
	A. Objectives	21	9
	B. Use of information	22	10
	C. Type of reports	23	10
	D. Adaptation technologies	24	11
	E. Research and development	25	11
V.	FURTHER WORK	26 - 30	11

I. INTRODUCTION

A. Mandate

1. At its first session, the Conference of the Parties (COP) by its decision 13/CP.1 on transfer of technology, requested the Convention secretariat "to prepare an inventory and assessment of environmentally sound and economically viable technologies and know-how conducive to mitigating and adapting to climate change. This inventory should also include an elaboration of the terms under which transfers of such technologies and know-how could take place" (FCCC/CP/1995/7/Add.1).

2. The COP further requested the secretariat "to submit the documents ... through the Subsidiary Body for Scientific and Technological Advice, to the Conference of the Parties at its second session, and to update them at regular intervals (each interval not to exceed a year) for consideration by the Conference of the Parties at each of its sessions; [and] to take the advice of the Subsidiary Body for Scientific and Technological Advice ... in implementing these responsibilities and to coordinate this matter with the relevant United Nations agencies and other organizations and institutions" (FCCC/CP/1995/7/Add.1).

3. Furthermore, the Ad Hoc Group on the Berlin Mandate (AGBM), at its first session, requested the Subsidiary Body for Scientific and Technological Advice (SBSTA) "to provide, for consideration at its third session (4-8 March 1996), a report on innovative, efficient and state-of-the-art technologies and know-how that could advance the implementation of the Berlin Mandate. This should be periodically updated" (FCCC/AGBM/1995/2, para. 19 (l)).

4. The SBSTA took note of the requests for inputs from the AGBM and requested the secretariat "to prepare ... an initial progress report relating to technology identification, assessment and development, as well as an inventory of state-of-the-art, environmentally sound and economically viable technologies and know-how conducive to mitigating and adapting to climate change, in implementation of decision 13/CP.1" (FCCC/SBSTA/1995/3, para. 26).

B. Scope of the note

5. This note contains information on the action taken so far by the secretariat to prepare an inventory and assessment of technologies. It identifies the main question, "What type of information on technologies and know-how would be most useful to the Parties?", and seeks guidance on a number of issues related to this question, as well as describing further work to be undertaken. The term "technologies and know-how", as used in this report, encompasses 'soft technologies' and 'hard technologies'. Examples of 'soft' technologies include capacity building, information networks, training, and research, while examples of 'hard' technologies include equipment and products to control, reduce or prevent anthropogenic emissions of greenhouse gases in the energy, transportation, forestry, agriculture, and industry sectors, to enhance removals by sinks, and facilitate adaptation.

6. In this context, the secretariat notes that the language in decision 13/CP.1 and the request of the AGBM differ: the former uses the words "environmentally sound and economically viable" and the latter uses the words "innovative, efficient, and state-of-the-art". This initial report has been prepared to address both requests.

7. A discussion of the transfer of technology by Annex II Parties may be found in FCCC/1996/SBI/5 and a discussion of the guidelines for the preparation of first communications may be found in FCCC/1996/SBSTA/3.

C. Action by the Subsidiary Body for Scientific and Technological Advice

8. The SBSTA may wish to note the activities of the secretariat and consider the issues raised in this report, particularly the priority for future work. It may also wish to transmit its conclusions to the AGBM.

II. STEPS IN THE PREPARATION OF THE PRESENT REPORT

9. As its first step, the secretariat sent a letter to the 145 Parties to the Convention and 42 relevant United Nations bodies and intergovernmental organizations on 13 November 1995, requesting copies of reports summarizing information on mitigation and adaptation technologies by sectors or categories rather than detailed reports on specific technologies. As a guide, the letters contained a list of mitigation technologies provided by the Intergovernmental Panel on Climate Change (IPCC) in its Second Assessment Report, chapter 28, "Inventory of technologies, methods, and practices for reducing emissions of greenhouse gases" (FCCC/SBSTA/1996/7/Add.2).

10. Secondly, the secretariat drew upon many activities already under way in relevant United Nations agencies and other bodies. For example, it utilized the "Survey of information systems related to environmentally sound technologies" prepared by the United Nations Environment Programme (UNEP) in April 1995. The survey identifies 51 institutions that operate information systems on environmentally sound technologies, many related to climate change issues. Thirty-three of the institutions that were likely to have information on mitigation and adaptation technologies and know-how, as referred to in decision 13/CP.1, were contacted. In addition, the secretariat expanded collaboration with

the United Nations Industrial Development Organization (UNIDO) which has an information system and experience with industrial processes in developing countries. The secretariat also used the Internet* to begin searching for additional on-line information sources.

11. Finally, the secretariat designed a database to organize the information received from contributing Parties, specialized agencies and other bodies of the United Nations system, intergovernmental organizations, and other institutions and organizations. It contains written materials, technical reports, journal articles, books, and reports on conferences and workshops. In addition, information is available on institutions, information centres, databases, and "web sites" which disseminate information on mitigation and adaptation technologies.

12. For illustrative purposes, the contents of the database are reproduced in the addendum to this document (see FCCC/SBSTA/1996/Add.1) and arranged according to the contributing entity, that is, contributing Parties, United Nations Secretariat units and other bodies, specialized agencies and other organizations of the United Nations system, intergovernmental organizations, and other institutions and organizations. The structure comprises the report title, issuing organization, an abstract of the content, intended users, types of technologies considered, access, and price. The database is still in a preliminary stage and can be expanded and adapted to meet specific needs. In the future, records could be sorted by different categories and searches undertaken.

III. GENERAL RESULTS CONCERNING SOURCES OF INFORMATION

13. The secretariat received 31 responses from Parties and intergovernmental organizations to its request for information by 15 January 1996. In addition, it received seven responses to inquiries made via electronic means. Four Parties acknowledged the letter, but did not provide specific information and are therefore not represented in the database.

14. The information forwarded to the secretariat revealed that a large number of technologies are either currently being developed or are in use. This information is available via:

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* The Internet was developed to enable researchers to transfer information electronically. Since then it has become a world-wide network through which texts, images and personal messages are exchanged electronically over long distances almost immediately. It is growing rapidly and now has some 40 million users in the world of which about half are in North America. The World Wide Web, one service of the Internet, is a tool to make information publicly available. Organizations, institutions, companies, and individuals establish "home pages" and "web sites" to enable users to access information (some free of charge and others for a fee). In some countries, the high cost to users of being connected to the Internet, insufficient telecommunication infrastructure and other factors, may currently limit access to Internet.

(a) Written materials. Journal articles, technical reports, books, and newsletters (such as the International Energy Agency/Organisation for Economic Co-operation and Development (IEA/OECD)) study "Energy and environmental technologies to respond to global climate change concerns");

(b) Databases. Information stored in computerized databases, which can be obtained on diskette or accessed on-line. In addition, a hard copy of information contained in the database is often available upon request (for example, *The Greenhouse Gas Technology Information Exchange (GREENTIE) Directory* listing 3000 research institutions and technology suppliers);

(c) Workshops and training courses. Some institutions conduct workshops and training programmes on specific technologies (for example, the training courses on environmental information services conducted by the Environmental Systems Information Centre (ENSIC), Bangkok.).

15. The type of information available on technologies varies considerably. For illustrative purposes, table 1 below gives selected examples of different types of reports. However, in many cases it is difficult to categorize a report since the contents address several subject areas.

TABLE 1. EXAMPLES OF DIFFERENT TYPES OF REPORTS

Content	Description	Example
Research and development projects	A description of laboratory, bench scale or other experiments	"Solar thermal power and solar chemical systems", SolarPACES, IEA, 1994
Demonstration projects	A description of technology or practices tested on a small or limited scale	"Photovoltaics provide electricity to rural communities in the Philippines", Centre for the Analysis and Dissemination of Demonstrated Energy Technologies (CADDET), 1995
Product description	A catalogue of technical information and prices for specific products	"The Australian renewable energy industry", Department of Primary Industries and Energy, Australia, 1993
Multiple technology assessment	A comparative analysis of the performance, environmental impacts, and cost of several technologies or practices	"Options for reducing methane emissions internationally, vol. 1: technology options", United States Environmental Protection Agency, 1993
Programme report	The results of a programme conducted over a number of years to develop or introduce a technology or process in a country or region	"Implementation programme: reduction of environmental impact from coal in Central/Eastern Europe", United Nations Development Programme (UNDP), 1995
Case study	A summary of the technical, financial, institutional, and other aspects associated with deploying a new technology in a country or region	"Local and regional energy-related environmental issues", World Energy Council (WEC), 1995
Cost-effectiveness study	A study of the costs of different technologies	"Renewable energy technologies: a review of the status and cost of selected technologies", World Bank, 1994
Government policy report	An integrated report on policies, measures, and technologies	"Energy management in Africa", African Energy Policy Research Network (AFREPREN), 1992
Bibliography	A description and identification of reports, date of issue, and authorship	"Energy conservation in industry", Industrial and Technological Information Bank (INTIB), United Nations Industrial Development Organization (UNIDO), 1994
Institutional directory	A list of organizations working on a particular technology	*International Directory of Energy Efficiency Institutions*, World Energy Efficiency Association (WEEA), 1995

16. Three examples are described below in more detail:

(a) The "Inventory of technologies, methods, and practices for reducing emissions of greenhouse gases", chapter 28 of the IPCC Second Assessment Report provides specific data on 105 mitigation technology options, such as, technical and environmental

characteristics, cost, implementation requirements, and references. The major objective of this inventory is to provide a data source on energy supply and end-use technologies, as well as on industrial, agricultural and forestry practices. Furthermore, it provides a common format for documenting and exchanging technical, economic and operational data on various technology systems. It does not include adaptation technologies;

(b) The "Survey of information systems related to environmentally sound technologies" prepared by UNEP in April 1995 identified 51 information systems providing information on environmentally sound technologies, many of which are applicable to climate change issues. Expert meetings and a further assessment of user needs will contribute to a new version of the survey report in April 1996. A database and catalogue of information systems relating to environmentally sound technology will become available on diskette and/or the Internet in the future;

(c) The IEA/OECD *Greenhouse Gas Technology Information Exchange (GREENTIE) Directory* is intended to facilitate the transfer of greenhouse gas technology, in line with the IPCC list of 105 technologies. It has established and maintains a database of 3,000 sources of expertise on environmentally sound technologies for greenhouse gas emission reduction. GREENTIE provides an inquiry service, a printed directory, CD-ROM, and Internet access. Participating Governments pay the costs of operating the service as well as identifying national centres of expertise and submitting this information to the database.

17. The secretariat also found that the transfer of information electronically is expanding rapidly. Many Governments, intergovernmental organizations, corporations, and universities use fax machines, electronic mail (e-mail), and have "web sites" to transfer data, text, and graphics. For example, the United States Department of Energy has an Energy Efficiency and Renewable Energy "web site" that provides links to over 200 national and international "web sites". In many cases, these 200 "web sites" lead to additional sites with unprecedented amounts of information. There are therefore numerous sources of data, but it is difficult to assess the quality of the information. The simple steps taken by the secretariat in this regard are identified later in this report.

18. In preparing this report the secretariat was confronted with several challenges, including:

(a) Accessing information. As stated previously, there are many sources of information on technology and practices. In most cases the challenge is to know where to look and what to ask for. In a few cases, information was unavailable because it was out of print or could only be obtained for a fee. Almost all organizations exhibited a willingness to provide information. Many indicated that this would be made easier if the Parties decided to narrow the focus of their requests;

(b) Comparing data. The secretariat has not attempted to develop a structure for synthesizing qualitative information, a common format for assessing technologies, or a means of comparing data on specific technologies. Each of these aspects represents a different level of complexity that should reflect the needs of the Parties;

(c) Presenting information. The information collected and synthesized by the secretariat must be presented in a clear and comprehensible manner and meet the needs of all Parties. In so far as this is a new activity, the secretariat has not yet developed a structure or format for presenting information;

(d) Collecting information from non-governmental institutions. The initial letter from the secretariat requesting information on technology and practices was addressed to Parties and intergovernmental organizations. The secretariat encouraged Parties to identify information from other sources, such as universities, environmental organizations, and private sector laboratories. Although relatively little information was transmitted from non-governmental institutions to the secretariat in response to its initial letter, the secretariat nevertheless routinely receives some information directly from such sources;

(e) Adaptation technologies and practices. Little specific information has been collected on adaptation technologies and practice although the subject is treated broadly in the IPCC Second Assessment Report. This may be due to a lack of awareness in many organizations as to what constitutes an adaptation technology or practice.

IV. ISSUES THAT THE SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE MAY CONSIDER

19. This initial attempt by the secretariat to inventory information on technologies and know-how conducive to mitigating and adapting to climate change demonstrates that a great deal of information is available from Parties, intergovernmental institutions, and the private sector. As discussed earlier, the current information ranges from data on specific products and vendors to case studies describing the introduction of a new technology in a country.

20. Decision 13/CP.1, while recalling the provisions of chapter 34 of Agenda 21 and the relevant provisions of the Convention, provides only broad guidance concerning the scope of such technology assessments to be undertaken by the secretariat. In order to offer more focused guidance, the SBSTA may consider several issues.

A. Objectives

21. What should be the objective(s) of future technology assessments? For example, should assessments provide information to assist developing countries in formulating and implementing national programmes to mitigate and adapt to climate change? Should assessments provide information to inform Annex I Parties about technologies that could

support a process of developing policies and measures? Or should both, and or others, be considered? In this regard, the SBSTA may wish to refer to the note prepared by the secretariat on policies and measures (FCCC/AGBM/1996/2).

B. Use of information

22. How will the information be used and by whom? Table 2 provides examples, as taken in modified form from the 1995 Second Assessment Report of the IPCC Working Group II, chapter 27, of the different levels of decision-making and typical questions that may be addressed. In this regard, it is apparent that the type of information that would be useful in preparing a request for tenders to build a 200 megawatt electricity plant in a specific location would be very different from the information needed to prepare a national communication.

TABLE 2. ILLUSTRATIVE DECISION-MAKING LEVELS AND TYPICAL TECHNOLOGY QUESTIONS

Level of decision-making	Possible decision makers	Typical questions
Cross-sectoral/ regional	Interministerial Committee	What should be the national expenditure for energy and agriculture?
Sectoral	Minister	Which policies and technologies are needed to achieve national goals?
Programme	Deputy Minister/Regional Administrator/ Senior Corporate Executive	What technologies are available to achieve regional or corporate objectives?
Project	Senior Corporate Executive/Municipal Official	Which particular projects or facilities will provide the highest return for an investment?
Facility	Plant Manager	What motors should be purchased and from which vendor?

C. Types of reports

23. Should any particular sectors, as, for example, energy, industry, transport, agriculture, forestry, or waste management, be given priority in future assessments? Should the reports be of a particular type, for example, case studies? Given the request of the COP to the Convention secretariat to prepare documents for consideration at regular intervals (each interval not to exceed a year), should these reports be very broad or should a series of reports that focus on specific topics be developed over the next several years?

D. Adaptation technologies

24. This report and the note prepared by the secretariat on transfer of technology (FCCC/SBI/1996/5) contain relatively little information on adaptation technologies. This may be partially due to a lack of understanding over what constitutes an adaptation technology or process and as such is a fundamental problem that may be solved if categories of adaptation technologies and processes could be developed and elaborated upon. The SBSTA may wish to consider whether this aspect of the request to the secretariat under decision 13/CP.1 would initially benefit from consideration by the intergovernmental technical advisory panel, should one be established, or the IPCC. The SBSTA may also wish to refer to the provisional tasks identified in FCCC/SBSTA/1996/2.

E. Research and development

25. Technologies that are in the research and development (R&D) stage represent one form of "innovative" technology, although other technologies may also fall into this category. Information on technologies that may emerge from R&D laboratories could be useful for a number of purposes, for example, in mathematical models that develop national scenarios of future emissions or to guide international R&D priorities. In some cases, however, information on technologies in the R&D stage may be difficult to obtain because it is considered proprietary or simply has not been published in the literature available to the public. Nevertheless, considerable information could be assembled, and Parties may wish to consider whether this aspect of the technology assessment should be undertaken by either the intergovernmental technical advisory panel, should one be established, or the IPCC.

V. FURTHER WORK

26. There was relatively little time for many Parties and intergovernmental organizations to respond to the request by the secretariat for information on technology. The secretariat believes that many other valuable reports and information sources exist and could be made available to the Parties, given additional time. It therefore encourages Parties or intergovernmental organizations to forward existing materials to the secretariat as well as providing new information as it becomes available. (It would be desirable for the secretariat to receive technology information routinely to serve as a basis for future reports.) The secretariat will revise its technology database, improve the presentation, provide a regularly updated compilation of information to the SBSTA, and draw up a long-term work programme. (See also FCCC/SBI/1996/4).

27. The secretariat notes that considerable interest exists in finding approaches to promote the diffusion and commercialization of innovative and environmentally sound technologies. A number of approaches are identified in the note by the secretariat on policies and measures (FCCC/AGBM/1996/2). Since technology penetrates the market at different rates due to many factors, it may be useful for the Parties to have information on specific technologies to support future consideration of this issue.

28. In the future, the work of the secretariat in inventorying and assessing technologies would be related to the tasks undertaken by an intergovernmental technical advisory panel dealing with technologies, once established. Indeed, some aspects of the inventory and assessment process as has been indicated above, may benefit from groundwork by such a panel. In other cases, reports prepared by the secretariat could be sent to the panel for technical comments.

29. Currently, the secretariat provides information on the World Wide Web (at the address http://www.unep.ch/iucc.html), including access to official UNFCCC documents that have been developed by the secretariat, and other relevant reports. The "home page" of the secretariat on the World Wide Web also provides direct links to other organizations that have World Wide Web sites. For example, it provides a direct link to the GREENTIE technology database of the IEA. These activities are currently supplementing the more usual transfer of information through documents prepared for sessions of the bodies of the Convention. This facility will be improved during 1996 as part of an overall upgrading of the information outreach activities of the secretariat. The secretariat will make its technology inventory database available through this means, as well as in hard copy, and will develop direct links, as time permits, with other "web sites" to assist Parties to obtain technology information as rapidly as possible.

30. The secretariat has not yet addressed the issue of "elaboration of the terms" referred to in decision 13/CP.1. An initial treatment of this issue will be undertaken in a future report. The secretariat has begun to collect information on global financing requirements for key sectors over the next few decades and options to meet these needs.

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UNITED
NATIONS

Framework Convention on
Climate Change

Distr.
GENERAL

FCCC/SBSTA/1996/4/Add.1
2 February 1996

ENGLISH ONLY

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE
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TECHNOLOGY INVENTORY AND ASSESSMENT

Initial report on an inventory and assessment of technologies to mitigate and adapt to climate change

Addendum

TECHNOLOGY INVENTORY DATABASE

Note by the secretariat

1. The secretariat has designed a database to organize information on mitigation and adaptation technologies received from Parties, intergovernmental organizations, and other sources. It contains technical reports, journal articles, books, and reports on conferences and workshops. Information is also available on institutions, information centres, databases, and web sites.

2. This addendum has been arranged according to the contributing entity, namely, contributing Parties, specialized agencies and other bodies of the United Nations system, intergovernmental organizations, and other institutions. (Information on official institutions that has been obtained from a source other than a contribution from a Party, is currently included in "other institutions".) The structure includes the report title, organization, abstract, types of technologies, intended users, World Wide Web address access, and price. The database is still in a preliminary stage and can be expanded, modified, and adapted to specific needs. In the future, records could be sorted by different categories and searches could be undertaken.

3. The secretariat plans to revise its technology database, improve the presentation and provide an updated compilation (see also FCCC/SBI/1996/4).

Title	Organization	Information	Technologies	Users	Access	Remarks
Contributing Party						
Argentina						
Environment and Technology presented September 1995	Permanent Mission of Argentina to the United Nations, Geneva 10, route de l'Aéroport Case postale 292 CH-1215 Geneva 15 Switzerland Presentation by Ms. Monica Servant, Energy Undersecretariat, Energy & Communications Secretariat	Article / leaflet / booklet with Policies and measures, National environmental laws	Energy technologies	Policy and decision makers National Argentina	Unrestricted	A description of the Argentinian energy sector, historical analysis of the sector's behaviour, environmental regulations, rational use of energy, and renewable energy.
Armenia						
Know-how presented by "AMROTS" Scientific Productive Incorporation	Ministry of the Environment and Mineral Resources 35 Moskovian Street 375002 Yerevan Armenia	Article / leaflet / booklet with Status of R & D	Renewable - photovoltaic Energy storage	Engineers Policy and decision makers	Unrestricted	This document reports on silicium photodetector, supercapacitor and accumulator, and chemical sources of heat and electricity developed and examined by the Scientific Productive Incorporation "AMROTS".
Australia						
Australian Energy Management News, National Energy Awards 1995 1995	Australian Government Publishing Service Marketing Section GPO Box 84 Canberra ACT 2601 Australia A62162 Cat No 95 1290 x	Article / leaflet / booklet with Company profiles and capabilities	Energy technologies	General public National Australia	Unrestricted	Once a year the National Energy Award is presented in recognition of outstanding achievement in the efficient production, conversion and use of energy. This publication presents the winners 1995.
Final Report - Energy Production November 1991	Australian Government Publishing Service Marketing Section GPO Box 84 Canberra ACT 2601 Australia Ecologically Sustainable Development Working Groups	Summary report / book with Status of R & D, Policies and measures	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Waste management	Policy and decision makers National Australia	Unrestricted	The Working Group examined individual options for reducing greenhouse gas emissions from the energy production and distribution sector. The publication contains a description, information on implementation and effectiveness.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Natural Gas Vehicles in Australia November 1993	Australian Government Publishing Service Marketing Section GPO Box 84 Canberra ACT 2601 Australia ISBN 0-644-32500-3	Article / leaflet / booklet with Demonstration objects	Fossil fuel - gas Transport - road	General public National Australia	Unrestricted	This publication sets out to provide information on the development of natural gas vehicles to date and work currently under way. In this way, it will help give Australians a better appreciation of the current status and future prospects of this technology.
An analysis of data from the Enterprise Energy Audit Programme Third Report October 1995	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia prepared by The Australian Bureau of Agricultural and Resource Economics ABARE project 1174	Summary report / book with Programme reports	Energy technologies	Policy and decision makers National Australia	Unrestricted	The Australian Government launched an Energy Audit Programme 1991. Energy audits conducted by energy auditing organizations identify the types and quantities of energy used by firms and the scope for more efficient energy use. This study estimates the average potential energy saving and the average potential returns to firms undertaking recommended energy savings investments.
Coal and Climate Change, Opportunities for Australian Industry to Contribute to Reducing International Greehouse Gas Emissions October 1994	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia prepared by Economic and Energy Analysis Pty Ltd	Summary report / book with Status of R & D, Policies and measures, Case studies	Fossil fuel - coal	Policy and decision makers National Australia	Unrestricted	
Energy Performance Standards and Energy Labelling for Industrial and Commercial Equipment Final Report April 1994	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia prepared by Energetics Pty Ltd and George Wilkenfeld & Associates Ref: J305	Summary report / book with Policies and measures	Energy technologies	Policy and decision makers National Australia	Unrestricted	The aim of this study was to establish whether there is a case for initiating a programme of energy labelling and/or energy standards for industrial and commercial equipment in Australia. The report contains detailed information on a range of products and technologies which lend themselves to either minimum energy standards, information programmes, or both, and reviews the procedures by which the recommended actions could be implemented.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Energy Use in Agriculture March 1994	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia AUC 439 prepared by Hassall and Associates Pty Ltd	Summary report / book with Methods and practices	Agricultural and forestry practices	Policy and decision makers National Australia	Unrestricted	
Metal Industry Sector Project Final Report March 1994	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia prepared by GASCOR Energy Management Centre	Summary report / book with Programme report, Status of R & D	Industry - iron/steel Industry - metals	Policy and decision makers Engineers National Australia	Unrestricted	The five industry sectors covered by this project - die casting, ferrous foundry, non ferrous foundry, hot forging and power metallurgy - are briefly described; common energy wasting practices, common energy inefficiencies in the equipment and new technologies and methods are listed.
Study of Energy Use in the Independent Food Retailing Industry, Volume 1 Final Report June 1995	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia prepared by SRC International Pty Ltd	Summary report / book	Industry - other	Policy and decision makers National Australia	Unrestricted	This study aims to identify energy use patterns and energy cost saving opportunities in the Australian food retailing industry, to determine the barriers to attaining energy efficiency and to provide guidance to the industry in the setting up of energy management programmes.
The Australian Renewable Energy Industry. A guide to Australian manufacturers and exporters of renewable energy technologies and a selection of case studies 1993	Department of Primary Industries and Energy GPO Box 858 Canberra ACT 2601 Australia ISBN 0644 29021 8	Summary report / book with Company profiles and capabilities, Case studies	Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - hydropower Renewable - biomass Renewable - other	Engineers Businesses Policy and decision makers National Australia	Unrestricted	A guide to state-of-the-art renewable energy technologies commercially available in Australia and to Australian companies manufacturing, exporting or significantly contributing in a value-adding sense to renewable energy systems or components.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Norway						
Air Bottoming Cycle Final Report, Phase I	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway carried out by Kvaerner Energy a.s.	Article / leaflet / booklet with Status of R & D, Programme report	Fossil fuel - gas	Engineers Scientists	Unrestricted	This report by Kvaerner Energy describes their further development of the Air Bottoming Cycle. It is a new gas turbine technology with considerable economic and environmental potential, given the extensive use of gas turbines in onshore and offshore power production.
Disposal of CO_2 in the Ocean	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway The Bergen CO_2 Group	Article / leaflet / booklet with Status of R & D	Direct CO_2 removal	Engineers Scientists	Unrestricted	"The Bergen CO_2 Group" was established to develop and implement a concept of CO_2 ocean disposal. The leaflet explaines the process and the project.
Emissions of CF-Gases from Electrolytic Reduction Processes 1994	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway EMS 28934	Article / leaflet / booklet with Programme reports	Industry - metals	Policy and decision makers Engineers National Norway	Unrestricted	The goals of the programme (1992-1994) were to establish a method for metering CF gases formed in aluminium production, to quantify Hydro Aluminium's emissions of CF gases and to understand the mechanisms forming these gases. Programme results and conclusions are shown in this publication.
Environmental Costs of Materials in Waste 1995	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway Commissioned by the research programme MILFOR ECON-report no. 338/95	Summary report / book with Status of R & D, Cost-effectiveness study	Waste management	Policy and decision makers National Norway	Unrestricted	The report estimates environmental costs in Norway of municipal waste related to leachate and gas generation, and to polluted ash. It examines the materials paper, plastic, metals, wood waste and glass, and estimates separately the cost of waste on landfills with and without gas collection and incinerated waste.
Environmental Costs of Waste Treatment 1995	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway Report 95:16 ISBN 82-7655-304-4	Summary report / book with Cost-effectiveness study	Waste management	Policy and decision makers	Unrestricted	The report examines methods for estimating negative external costs of waste treatment and evaluates these costs. Due to large emissions, the greenhouse gases carbon dioxide and methane seem to have the largest impact on the total external costs, followed by sulphur dioxide and nitrogen oxides.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Separation of CO_2 from Exhaust, Reduced Emissions from Gas Turbines	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway carried out by Kvaerner Engineering supported by the State Pollution Authority	Article / leaflet / booklet with Programme reports	Fossil fuel - gas Direct CO_2 removal	Policy and decision makers Engineers Scientists	Unrestricted	A report on the project to develop a process of CO_2 removal in offshore gas turbines by heat recovery and power generation, CO_2 absorbtion and stripping and CO_2 gas compressing and injection under the ground.
Sorting out Organics from the Waste, Environmental Consequences 1995	Ministry of Environment Myntgaten 2 P.O. Box 8013 Dep. N-0030 Oslo 1 Norway Report 95:11 ISBN 82-7655-295-1	Summary report / book with Policies and measures	Waste management	Policy and decision makers National Norway	Unrestricted	This study estimates the effects in Norway of sorting out organic waste for composting: 31 per cent reduction of CO_2-equivalent greenhouse gas emissions from municipal waste management.
Philippines						
CO_2 Mitigation Study conducted 1994	Permanent Mission of the Philippines to the United Nations Office at Geneva 47, avenue Blanc CH-1202 Geneva Switzerland Department of Energy	Summary report / book with Policies and measures, Status of R & D	Energy technologies	Policy and decision makers National Philippines		This study provides an initial list of scenarios to be considered for CO_2 mitigation in the Philippines with the focus on a technology-oriented classification of technically feasible scenarios in the energy sector.
Philippine Energy Plan (1994-2010) 1994	Permanent Mission of the Philippines to the United Nations Office at Geneva 47, avenue Blanc CH-1202 Geneva Switzerland	Summary report / book with Policies and measures, Status of R & D	Energy technologies	Policy and decision makers National Philippines		The recent long-term power planning study for the Philippines has designed practical and implementable demand side managament programmes.
Switzerland						
Science and Technology from Switzerland January 1995	Swiss Office for Trade Promotion Avenue de l'Avant-Poste 4 B.P. 1128 CH-1001 Lausanne Switzerland	Summary report / book with Status of R & D	Agricultural and forestry practices Energy technologies	Policy and decision makers Businesses National Switzerland	Unrestricted	This publication describes research and new products from Switzerland including research on the energy sector and in agriculture.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Specialized agencies and other bodies of the United Nations system						
Economic Commission for Europe						
Fluidized Bed Combustion and Flue Gas Emissions Prospects and Role May 1992	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland Report 110 1992	Article / leaflet / booklet with Status of R & D	Fossil fuel - coal Waste management Industry - pollution control	Policy and decision makers	Unrestricted	The study reviews the state of the art in commercial fluidized bed combustion (FBC) techniques, with particular attention to the use of FBC as a low emission combustion technique for coal, low grade and waste fuels.
Implementation Programme on Accelerating Clean Coal Technology (IMPACCT) April 1994	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland ENERGY/WP.1/GE.3/6/ Add.1	Article / leaflet / booklet with Programme reports	Fossil fuel - coal	Policy and decision makers Regional Eastern Europe	Unrestricted	The purpose of the programme is to promote the implementation of economic "clean coal technologies" by determining how to access available technologies, learning to structure projects, negotiating with potential Western partner organizations and training.
Option for Reducing Emissions of Ammonia from Agricultural Sources June 1995	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland Doc. No: EB.AIR/WG.5/R.54	Article / leaflet / booklet with Status of R & D	Agricultural and forestry practices	Policy and decision makers	Restricted	Resricted to governments taking part in the Convention on Long-term Transboundary Air Pollution.
Outcome of the Workshop on Recovery of Coal-Bed Methane, Ukraine, 15-17 June 1993 July 1993	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland ENERGY/WP.1/R.30	Conference / workshop report with Status of R & D	Fossil fuel - coal	Policy and decision makers Regional Eastern Europe	Unrestricted	The purpose of the workshop was to provide assistance on technogical, economic, institutional and social aspects related to recovery and end-use of coal-bed methane resources.
Report of the Workshop on the Use of Solar Energy 31 July - 4 Aug. 1995, Bet Berl, Israel	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland Doc. No: ENERGY/R.122	Conference / workshop report with Policies and measures	Renewable - solar thermal Renewable - photovoltaic	Policy and decision makers Scientists Engineers Global	Restricted	The report provides information on mature solar energy technologies.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Workshop on Development of Clean Small-Size Boilers for Industrial, Household and Farming Sectors, Poland, 5-7 April 1995 June 1995	Economic Commission for Europe Palais des Nations CH-1211 Geneva 10 Switzerland ENERGY/WP.1/R.43	Conference / workshop report with Status of R & D	Fossil fuel - coal	Policy and decision makers Regional Eastern Europe	Unrestricted	A state-of-the-art review of coal combustion technologies for industrial and houshold markets.
Food and Agriculture Organization of the United Nations (FAO)						
A New Approach to Energy Planning for Sustainable Development 1992	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy FAO Environment and Energy Papaer No. 12, 1992	Summary report / book			Unrestricted	
Bioenergy for Development: Technical and Environmental Dimensions 1994	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy Authors: J.Woods and D.O. Hall, Kings College London FAO Environment and Energy Paper No. 13, 1994	Summary report / book with Status of R & D	Renewable - biomass Waste management Agricultural and forestry practices		Unrestricted	
Biogas Processes for Sustainable Development 1992	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy FAO Agricultural Services Bulletin No. 95, 1992	Summary report / book with Status of R & D	Renewable - biomass Waste management Agricultural and forestry practices		Unrestricted	

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Energizacion para un Desarrollo Rural Sostenible / Energy for Sustainable Rural Development 1990	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy Enfoque Metodologico FAO/SCYT/INTA				Unrestricted	
Energy Consumption and Input-Output Relations of Field Operations 1989	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy REUR Technical Series No. 10, 1989	Summary report / book with Status of R & D, Methods and practices	Agricultural and forestry practices	Global	Unrestricted	
Energy for Sustainable Rural Development Projects 1991	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy Training Materials for Agricultural Planning - 23/1, FAO, 1991, and Case Studies 23/2 FAO, 1991	Summary report / book		Global	Unrestricted	
Global Climatic Change and Agricultural Production: Direct and Indirect Effects of Changing Hydrological, Soil and Plant Physiological Processes due April 1996	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy joint publication FAO / John Wiley & Sons Ltd.	Summary report / book with Methods and practices, Status of R & D	Agricultural and forestry practices	Policy and decision makers Global	Unrestricted	The proceedings present the highlights from an expert consultation organized by FAO with UNEP support.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Solar Drying of Fish and Paddy 1989	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy FAO Environment and Energy Paper No.10, 1989	Summary report / book with Methods and practices	Agricultural and forestry practices	Global	Unrestricted	
The Briquetting of Agricultural Waste for Fuel 1990	Food and Agriculture Organization of the United Nations Via delle Terme di Caracalla I-00100 Rome Italy FAO Environment and Energy Paper No. 11, 1990	Summary report / book with Methods and practices	Waste management Agricultural and forestry practices	Global	Unrestricted	
Intergovernmental Panel on Climate Change (IPCC)						
Inventory of Technologies, Methods, and Practices for Reducing Emissions of Greenhouse Gases Final Version September 1995	WMO/UNEP Intergovernmental Panel on Climate Change IPCC Secretariat c/o WMO 41, av. G. Motta, CP 2300 CH-1211 Geneva 2 Switzerland IPCC Second Assessment Report, Working Group II, chapter 28	Summary report / book with Multiple technology assessment, Status of R & D	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Energy storage transport Buildings / habitat Waste management Agricultural and forestry practices Industry - minerals Industry - iron/steel	Policy and decision makers Global	Unrestricted	The inventory provides descriptions of technologies to limit or reduce greenhouse gas emissions in the energy, transport, buildings, manufacturing, Waste management and agricultural sectors.
International Atomic Energy Agency (IAEA)						
Databases and Methodologies for Comparative Assessment of Different Energy Sources for Electricity Generation (DECADES) complete system available early 1996	International Atomic Energy Agency P.O. Box 100 A-1400 Vienna Austria DECADES Project Secretariat	Information system for PC with Status of R & D, Methods and practices, Case studies	Fossil fuels Renewables Nuclear Fuel cells	Policy and decision makers Engineers Scientists Global	Unrestricted	This inter-agency joint project of the EC, ESCAP, IAEA, IBRD/World Bank, OECD/NEA, OPEC, UNIDO,WMO has, as its overall objective, to improve the abilities for comparative assessment in the process of planning and decision making for the electricity sector. It provides a Reference Technology Database (RTDB), a software package for electricity system planning (DECPAC) and case studies to illustrate their use.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Lowering Greenhouse Gas Emissions: The Possible Role of Nuclear Power Generation presented 20-22 June 1995	International Atomic Energy Agency P.O. Box 100 A-1400 Vienna Austria Authors: E. Bertel and I.F.Vladu	Article / leaflet / booklet with Status of R & D	Nuclear	Policy and decision makers Global	Unrestricted	This paper presents the results of an IAEA Workshop on Full-Energy-Chain (FENCH) Greenhouse Gas Emission Factors, held in Bejing, China, 4-7 October 1994. It compares different FENCH studies.
The IAEA Investigations into Studies on Comparative Assessment of Full-Energy-Chain Emissions of Greenhouse Gases from Different Energy Sources: an Update presented 26-28 September 1995	International Atomic Energy Agency P.O. Box 100 A-1400 Vienna Austria Author: J.F van de Vate	Article / leaflet / booklet with Status of R & D	Fossil fuel - gas Fossil fuel - oil Fossil fuel - coal Renewable - photovoltaic Renewable - wind Renewable - hydropower Renewable - biomass	Policy and decision makers Engineers Scientists Global	Unrestricted	This article compares Full Energy Chain (FENCH) analysis studies.
International Civil Aviation Organization						
Report of Working Groups 2 and 3 on Matters Relating to Engine Emissions November 1995	International Civil Aviation Organization Place de l'Aviation Internationale 1000 Sherbrooke Street West Montreal QC H3A 2R2 Canada prepared for The Commitee on Aviation Environmental Protection (CAEP) Third Meeting, Montreal, 5-15 December 1995	Article / leaflet / booklet with Policies and measures, Status of R & D	Transport - air/water	Policy and decision makers Global	Unrestricted	This publication reports on the findings on emissions around airports, emissions-reduction technology, certification and emissions inventory.
United Nations Conference on Trade and Development (UNCTAD)						
Environmentally Sound Technology for Sustainable Development Spring 1992	United Nations Conference on Trade and Development Palais des Nations CH-1211 Geneva 10 Switzerland	Summary report / book with Status of R & D	Environmentally sound technologies	Policy and decision makers Global	Unrestricted	The second issue of the Advanced Technology Assessment System.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Science and Technology for Integrated Land Management March 1995	United Nations Conference on Trade and Development Palais des Nations CH-1211 Geneva 10 Switzerland Commission on Science and Technology for Development E/CN.16/1995/4	Article / leaflet / booklet with Policies and measures, Status of R & D, Methods and practices	Agricultural and forestry practices	Policy and decision makers Global	Unrestricted	An account is given of the role of science and technology in the support of information needs, evaluation of options, applications for the solution of specific problems and infrastructural capabilities, as well as providing the foundation for an integrated approach to land use planning management. Availability and obstacles are described.
United Nations Development Programme (UNDP)						
Implementation Programme: Reduction of Environmental Impact from Coal in Central/Eastern Europe draft report September 1995	United Nations Development Programme One United Nations Plaza New York NY 10017 United States of America Project No: RER/94/G01/54	Article / leaflet / booklet with Programme reports, Policies and measures	Fossil fuel - coal	Policy and decision makers Regional Eastern Europe	Unrestricted	
United Nations Educational, Scientific and Cultural Organization (UNESCO)						
International Workshop on Integrated Coastal Zone Management (ICZM), Karachi, Pakistan 10-14 October 1994 1994	Intergovernmental Oceanographic Commission UNESCO 1, rue Miollis F-75732 Paris Cedex 15 France Workshop Report No. 114	Conference / workshop report with Methods and practices		Policy and decision makers Global	Unrestricted	Experts in land use and planning, fisheries, agriculture, coastal industries, tourism, port and shipping reviewed the basic principles of integrated coastal zone management and formulated guidelines for managing strategies, recommended measures for monitoring, capacity building and made institutional arrangements.
IOC Group of Experts on the Global Sea Level Observing System (GLOSS), Bordeaux, France, 31 Jan - 3 Feb 1995 March 1995	Intergovernmental Oceanographic Commission UNESCO 1, rue Miollis F-75732 Paris Cedex 15 France IOC/GE-GLOSS-IV/3	Conference / workshop report		Policy and decision makers Global	Unrestricted	A GLOSS Handbook is also available.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
United Nations Environment Programme (UNEP)						
Cleaner Production Worldwide 1993	UNEP Industry and Environment Programme Activity Centre 39-43, quai André Citroën Tour Mirabeau F-75739 Paris Cedex 15 France Sales No 91-III-D2 ISBN 92-807-1369-8	Article / leaflet / booklet with Case studies	Industry - chemicals Industry - iron/steel Industry - metals Industry - paper Industry - pollution control Industry - other	Policy and decision m[illegible]rs E[illegible]eers Businesses Global	Unrestricted	This booklet describes case studies of cleaner production processes with environmental benefits and lower costs.
OzoneAction Information Clearinghouse updated twice a year	UNEP Industry and Environment Programme Activity Centre 39-43, quai André Citroën Tour Mirabeau F-75739 Paris Cedex 15 France	Information system for PC with Status of R & D Policies and measures, National environmental laws, Research institutions, Other information sources		Policy and decision makers Engineers Scientists Global	Unrestricted	This clearinghouse is a self-contained, compact data-base system devoted exclusively to ozone protection issues. It contains technical and policy publications, contacts, regulations, projects, chemical data and suppliers of technology.
Survey of Information Systems Related to Environmentally Sound Technologies Interim Report	United Nations Environment Programme P.O. Box 30552 Nairobi Kenya Linda Spencer, Acting Director tel: (254-2) 623274 fax: (254-2) 624269 e-mail: spencerl@unep.no	Summary report / book with Other information sources	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Energy storage Transport Buildings / habitat Waste management Agricultural and forestry practices industry Adaptation Direct CO_2 removal future technologies	Policy and decision makers Engineers Scientists Businesses Global	Unrestricted	Information on 51 information systems related to environmentally sound technologies.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
United Nations Industrial Development Organization (UNIDO)						
Energy Conservation in Industry, The Energy and Environment Series, No.5, Industrial and Technological Information Bank (INTIB) 1994	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Summary report / book with bibliographical citations	Fossil fuels Renewable - biomass Transport - road industry	Policy and decision makers Engineers Global	Unrestricted US$100 (US$66 for developing countries)	Contains bibliographical information and abstracts of 720 publications; also available in the Energy and Environment Series: Energy Conservation in Industry, 1992; Effluent Control in Industry, 1993; Hazardous Waste Management in Industry, 1994; Industrial Safety, 1994.
Handy Manual, Glass Industry, Output of a Seminar on Energy Conservation in Glass Industry 1993	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Article / leaflet / booklet with Status of R & D	Industry - minerals	Engineers Policy and decision makers Global	Unrestricted	The Handy Manual prepared by UNIDO in cooperation with the Energy Conservation Center (ECC) of Japan is in particular designed for plant-level engineers and operators in developing countries as a help to improve energy efficiecy in the production process.
Handy Manual, Iron & Steel, Output of a Seminar on Energy Conservation in Iron and Steel Industry 1992	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Article / leaflet / booklet with Status of R & D	Industry - iron/steel	Engineers Policy and decision makers Global	Unrestricted	The Handy Manual prepared by UNIDO in cooperation with the Energy Conservation Center (ECC) of Japan is in particular designed for plant-level engineers and operators in developing countries as a help to improve energy efficiecy in the production process.
Handy Manual, Paper & Pulp, Output of a Seminar on Energy Conservation in Paper and Pulp Industry 1993	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Article / leaflet / booklet with Status of R & D	Industry - paper	Engineers Policy and decision makers Global	Unrestricted	The Handy Manual prepared by UNIDO in cooperation with the Energy Conservation Center (ECC) of Japan is in particular designed for plant-level engineers and operators in developing countries as a help to improve energy efficiecy in the production process.
Handy Manual, Textile Industry, Output of a Seminar on Energy Conservation in Textile Industry 1992	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Article / leaflet / booklet with Status of R & D	Industry - other	Engineers Policy and decision makers Global	Unrestricted	The Handy Manual prepared by UNIDO in cooperation with the Energy Conservation Center (ECC) of Japan is in particular designed for plant-level engineers and operators in developing countries as a help to improve energy efficiecy in the production process.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Industrial and Technological Information Bank (INTIB)	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Information system - mail queries - on-line with Status of R & D, Company profiles and capabilities, Research institutions, Other information sources		Businesses Engineers Global	Unrestricted	INTIB offers a combination of on- and off-line information, access to data bases and publications, compiled and repackaged information, technical assistance to strenghten industrial and technological information and answers to enquiries from developing countries. The Energy and Environment information system (EEIS) is being developed within this framework.
Industry and Environment: A Guide to Sources of Information 1991	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria Verlag Dr. Grueb Nachf., Oelbergweg 8, D-7801 Bollschweil, Germany	Summary report / book with Other information sources	Industry - minerals Industry - chemicals Industry - iron/steel Industry - metals Industry - paper Industry - pollution control Industry - other	Policy and decision makers Engineers Scientists Businesses General public Global	Unrestricted DM 125	This 260-page reference work provides detailed advice on the use of information sources covering industrial pollution issues, equipment suppliers, consulting companies, environment-related R&D, technical services and institutions.
Introductory Guidebook of Cleaner, Safer and Energy-Saving Technologies July 1992	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria IPCT.163(SPEC.)	Summary report / book with Status of R & D	Industry - minerals Industry - iron/steel Industry - paper	Policy and decision makers Engineers Global	Unrestricted	This publication reviews energy saving technologies in steel, cement, pulp and paper industry.
Recycling '91 INECA Journal, Volume 2, Number 1 1991	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria	Summary report / book with bibliographical citations	Transport - road Waste management industry	Policy and decision makers Engineers Global	Unrestricted US$ 100 (US$ 66 for developing countries)	Contains bibliographical information and abstracts of 1050 publications.
UNIDO Industry and Energy, Improving Industrial Energy Efficiency and Reducing Greenhouse Gas Emissions November 1995	United Nations Industrial Development Organization P.O. Box 300 A-1400 Vienna Austria Environment and Energy Branch	Article / leaflet / booklet with Case studies	Fossil fuel - coal Renewable - photovoltaic Renewable - wind Renewable - biomass Industry - minerals Industry - other	Policy and decision makers Global	Unrestricted	This brochure provides brief information on eight case studies in China, Africa, Egypt, Czech Republic, South East Asia and Kenya.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
World Bank						
Renewable Energy technologies A Review of the Status and Cost of Selected Technologies Janus y 1994	World Bank 1818 H Street, NW Washington DC 20433 United States of America World Bank Technical Paper Number 240 Energy Series	Summary report / book with Multiple technology assessment. Cost-effectiveness study.	Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - biomass	Policy and decision makers Global	Unrestricted	This publication examines the evidence on the historical and projected costs of selected renewable energy technologies on a common basis and assesses developments based on more than 50 studies.
World Health Organization (WHO)						
Report of the Panel on Energy 1992	World Health Organization 20, Avenue Appia CH-1211 Geneva 27 Switzerland Doc. No: WHO/EHE/92.3	Summary report / book with Policies and measures	Fossil fuels Renewables Nuclear	Policy and decision makers Global	Unrestricted	The report describes the potential environmental health impacts associated with each type of energy source, what can be done to prevent or mitigate adverse effects, and likely trends in energy production and use over the next two decades. Recommendations are made for research, and for strategies to implement measures to deal with energy-related environmental health issues.
World Tourism Organization						
Agenda 21 for the Travel & Tourism Industry Towards Environmentally Sustainable Development	World Tourism Organization Capitán Haya 42 E-28020 Madrid Spain	Summary report / book with Programme reports, Case studies	Transport - air/water Transport - train Transport - road Buildings / habitat Waste management	Policy and decision makers Businesses General public Global	Unrestricted	This document translates Agenda 21 into a programme of action for travel and tourism.
Intergovernmental organizations						
Asian Development Bank (ADB)						
A Study of Least-Cost Greenhouse Gas Abatement Strategy Project (ALGAS)	Asian Development Bank 6 ADB Avenue 1501 Mandaluyong City 1099 Manila Philippines	Summary report / book with Policies and measures		Policy and decision makers Regional Asia and Pacific	Unrestricted	The overall objective of the ALGAS project is to help reduce the emissions of greenhouse gases from the Asia region by developing and improving the national and regional capacities to prepare baseline inventories, to identify, formulate, and analyse GHG abatement initiatives, and to deploy and implement national and regional least-cost GHG abatement strategies.
Climate Change in Asia July 1993	Asian Development Bank 6 ADB Avenue 1501 Mandaluyong City 1099 Manila Philippines	Summary report / book with Case studies		Policy and decision makers Regional Asia and Pacific	Unrestricted	The study investigated the implications of climate change for costal zones, agricluture, forestry, water resources, energy and other vital sectors in eight countries, namely Pakistan, India, Sri Lanka, Bangladesh, Indonesia, Malaysia, Viet Nam and the Philippines.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
National Response Strategy for Global Climate Change: People's Republic of China September 1994	Asian Development Bank 6 ADB Avenue 1501 Mandaluyong City 1099 Manila Philippines	Summary report / book with Policies and measures		Policy and decision makers National China	Unrestricted	The report includes estimates of current and future emissions, measures to reduce future emissions and their costs, and a special report to project energy demand under various scenarios and the underlying factors.
Preparation of a National Strategy on Global Climate Change: Thailand June 1993	Asian Development Bank 6 ADB Avenue 1501 Mandaluyong City 1099 Manila Philippines	Summary report / book with Policies and measures		Policy and decision makers National Thailand	Unrestricted	This report places emphasis on inventory work and related policy development to help Thailand to meet its international obligations under the Convention.
International Energy Agency (IEA)						
Centre for the Analysis and Dissemination of Demonstrated Energy technologies (CADDET) - Energy Efficiency	CADDET Centre for Energy Efficiency P.O. Box 17 NL-6130 AA Sittard Netherlands http://caddet-ee.org	Institution Information system - mail queries - for PC with Demonstration objects, Case studies, Status of R & D	Energy transfer Energy storage Transport - air/water Transport - train Transport - road Buildings / habitat Industry	Policy and decision makers Engineers Scientists Businesses General public Global	Unrestricted	Within the framework of the IEA, the CADDET Centre provides information on objects demonstrating energy efficiency through the register of all demonstration projects on diskette, technical brochures, analysis reports on specific technologies and newsletters.
Centre for the Analysis and Dissemination of Demonstrated Energy technologies (CADDET) - Renewables	CADDET Centre for Renewable Energy ETSU B153 Harwell Oxfordshire OX11 0RA United Kingdom http://www.caddet.co.uk/re/	Institution Information system - mail queries - for PC with Demonstration objects, Case studies, Status of R & D	Renewables Transport Buildings / habitat Waste management Agricultural and forestry practices Industry	Policy and decision makers Engineers Scientists Businesses General public Global	Unrestricted non-member countries: Register: £100 Brochures:£1 Newsletter: £15	Within the framework of the IEA, the CADDET Centre provides information on objects demonstrating renewable energy through the register of all demonstration projects on diskette, technical brochures, the Renewable Newsletter, analysis reports, reviews and expert meetings.
Greenhouse Gas Technology Information Exchange (GREENTIE)	Greenhouse Gas Technology Information Exchange Swentiboldstraat 21 P.O. Box 17 NL-6130 AE Sittard Netherlands Greentie Liaison Groups (GLGs) in member countries http://www.greentie.org/greentie/	Institution Information system - mail queries - on-line - for PC Web site with Research institutions, Other information sources, Company profiles and capabilities, Status of R & D	Fossil fuels Renewables Transport Buildings / habitat Waste management Agricultural and forestry practices Industry	Policy and decision makers Engineers Scientists Businesses Global	Unrestricted	GREENTIE, established by the IEA and OECD, can be accessed through a network of Liaison Groups (GLGs). Through an enquiry service, information on technology options and suppliers, a general reader, the directory of 3000 institutions as CD-ROM or on-line and newsletters are made available.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Greenhouse Gas R&D Information Centre	IEA Greenhouse Gas R&D Programme CRE, Stoke Orchard, Cheltenham Gloucestershire GL52 4RZ UK	Institution with Status of R & D, Cost-effectiveness study, Policies and measures	Fossil fuel - gas Fossil fuel - oil Fossil fuel - coal Direct CO_2 removal	Policy and decision makers Businesses Engineers Scientists	Unrestricted	The programme has been set up to evaluate technologies for the mitigation of GHGs derived from the use of fossil fuels, and to disseminate findings and develop targets for appropriate research, development and demonstration.
IEA Heat Pump Centre	IEA Heat Pump Centre P.O. Box 17 6130 AA Sittard Netherlands Jos Bouma http://www.heatpumpcentre.org	Institution Information system - mail queries - on-line Web site with Status of R & D, Programme reports, Bibliographical citations, workshops / training	Renewable - other Buildings / habitat	Engineers Scientists	Unrestricted	The Centre provides newsletters, analysis reports, workshops, an enquiry service and programme library (on-line early 1996) with bibliographic information on all 1000 papers, articles and documents published by the Centre. Documents have to be ordered. The directory is also available in hard copy.
IEA International Centre for Gas Technology Information	IEA International Centre for Gas Technology Information Dr. Neergaards Vej 5a DK-2970 Horsholm Denmark Mr. A.H. Pedersen http://www.gasinfo.dk/gasinfo	Institution Information system - on-line with Status of R & D	Fossil fuel - gas	Policy and decision makers Engineers Scientists Businesses	Unrestricted	
Energy Technology Data Exchange (ETDE)	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ETDE Operating Agent http://www.etde.org	Information system - on-line with Other information sources	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Energy storage Industry Water supply / sanitation	Scientists Global	restricted to anyone within an ETDE member country through agents in that country	ETDE contains the world's largest collection of energy literature, with more than 3 million abstracted and indexed records, of which 12 pre cent are focused primarily on environmentally sound technology areas. The ETDE itself does not publish reports and cannot be accessed directly. Member countries contribute and obtain entries to produce their own products to meet their specialized needs, e.g. Germany provides an on-line "Energy" database product and the UK the "ETDE Energy Database CD-ROM".
Solar Power and Chemical Energy Systems SolarPACES Annual Report 1994 May 1995	IEA SolarPACES Secretariat DLR/MD-PSA Apartado 649 E-04080 Almeria Spain	Summary report / book with Status of R & D, Demonstration objects, Programme reports	Renewable - solar thermal	Engineers Scientists General public	Unrestricted	Includes overview of solar thermal electricity and solar chemistry.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Solar Thermal Power and Solar Chemical Systems September 1994	IEA SolarPACES Secretariat DLR/MD-PSA Apartado 649 E-04080 Almeria Spain ISBN - 0 - 9524159 - 0 - 3	Article / leaflet / booklet with Status of R & D, Demonstration objects, Research institutions, Programme reports	Renewable - solar thermal	Scientists Engineers General public	Unrestricted	
IEA / OECD Scoping Study on Energy and Environmental Technologies to Respond to Global Climate Change Concerns 1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-65-14224-X	Summary report / book with Multiple technology assessment, Status of R & D	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Energy storage Transport Buildings / habitat Waste management Agricultural and forestry practices Industry Direct CO_2 removal Future technologies	Policy and decision makers Global Western Europe and Others	Unrestricted US$ 79	The aim of the study is to assist Governments and international organizations. It is intended to identify where international cooperation can enhance the development of longer-term energy and environmental technology options that are still "pre-commercial".
Development and Deployment of Technologies to Respond to Global Climate Change Concerns (Paris) - 21-22 November 1994 published: 17.11.95	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14393-9	Conference / workshop report with Policies and measures	Environmentally sound technologies	Policy and decision makers Global	Unrestricted	The proceedings incorporate the keynote presentations of a high level meeting held as a follow-up activity to the "IEA / OECD Scoping Study on Energy and Environmental Technolgies to Respond to Global Climate Change Concerns". Overviews of the discussions are included. Topics: strategies to address technology policy issues, as well as ways to encourage enhanced international collaboration.
Technology Responses to Global Environmental Challenges (Kyoto) - 6 - 8 Nov. 1991 published: 6.4.94	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14072	Conference / workshop report with Status of R & D, Policies and measures	Environmentally sound technologies	Policy and decision makers Global	Unrestricted US$ 100	This volume of proceedings shows that sustained efforts must be undertaken by governments and the private sector to achieve a range of technological breakthroughs in the next several decades. The papers presented provide a comprehensive overview of the status and prospects of innovative technologies and R&D programmes in various technology sectors.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Energy technologies to Reduce CO_2 Emissions in Europe: Prospects, Competition, Synergy (Petten - 11-12 April 1994) published 5.1.1995	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14308-4	Conference / workshop report with Status of R & D	Energy technologies	Policy and decision makers Regional Western Europe and Others	Unrestricted US$ 51	This volume explores the prospects in Europe for a wide range of new and improved Energy technologies, and examines the interrelationship between those technologies over the longer term, within a scenario of drastically reduced CO_2 emissions.
Energy Efficiency Update published once every four months	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France Alain Bilot	Article / leaflet / booklet with Status of R & D, Policies and measures, Case studies	Energy technologies	Policy and decision makers Regional Western Europe and Others	Unrestricted	
Industry Attitudes to Steam Cycle Clean Coal Technologies - Survey of Current Status (CIAB) published: 19.6.1995	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14412-9	Summary report / book with Status of R & D	Fossil fuel - coal	Policy and decision makers	Unrestricted US$ 13	The study reviews the future prospects for coal-based power generation, the current and likely future development of pulverized fuel-firing and atmospheric fluidised bed combustion units, and the future of steam cycle technologies, based on an industry survey.
Industry Attitudes to Combined Cycle Clean Coal Technologies - Survey of Current Status published: 29.9.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14231-2	Summary report / book with Status of R & D	Fossil fuel - coal	Policy and decision makers	Unrestricted US$ 13	This publication points at coal-burning technologies that will improve environmental performances of coal particularly in the case of those used for power generation. Beyond the evolution of the well-established steam cycle approach aimed at achieving higher thermal efficiency and lower emissions, other approaches use technologies that are essentially new.
Projected Costs of Generating Electricity - Update 1992 published: 20.12.1993	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92- 64-14020-4	Summary report / book with Cost-effectiveness study	Energy technologies	Policy and decision makers	Unrestricted US$ 50	This joint NEA/IEA publication is a comparative study of projected baseload electricity generation costs for power plants to be commissioned near the turn of the century. It reviews the cost data of nuclear, coal-fired, gas-fired, and renewable sources provided by 16 OECD and six non-OECD countries. Sensitivity studies are included and trends in cost projections in the past decade are also discussed.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Electric Power Technologies: Environmental Challenges and Opportunities published: 11.10.1993	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-13994-X	Summary report / book with Status of R & D	Energy technologies	Policy and decision makers	Unrestricted US$ 13	This survey of technology options identifies four spheres of action for promoting the introduction of technologies that reduce the environmental impacts of power generation. The suggested approach involves a diversified mix of greater end-use efficiency, cleaner and more efficient generation from fossil fuels, more standardized nuclear power plants with enhanced safety features, and more cost-effective power generation from renewable sources.
Clean and Efficient Use of Coal and Lignite (Hongkong) - 30 Nov.- 3 Dec. 1993 published: 8.12.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14243-6	Conference / workshop report with Policies and measures	Fossil fuel - coal	Policy and decision makers Global	Unrestricted US$ 150	These proceedings contain detailed proposals for promoting coal technology progress while reducing environmental impacts. Specialized papers cover all the technological aspects of the coal and lignite use chain.
Clean and Efficient Use of Coal: The New Era for Low-Rank Coal (Budapest) - Feb. 1992 published:20.12.93	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14022-0	Conference / workshop report with Policies and measures	Fossil fuel - coal	Policy and decision makers Regional Eastern Europe	Unrestricted US$ 97	These proceedings contain the perspectives of high level government officials and senior executives from the coal industry, electric utilities and R&D centres, and regulators on the clean and efficient use of coal in Central and Eastern Europe.
Coal, The Environment and Development: Technologies to Reduce Greenhouse Gas Emissions (Sydney) - 18 - 21 Nov. 1991 published: 5.8.1992	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-13657-6	Conference / workshop report with Status of R & D	Fossil fuel - coal	Policy and decision makers Global	Unrestricted	The papers in this set of proceedings evaluate the performance of new and improved coal-use technologies. They indicate strategies that industrialized and developing countries may adopt to advance and apply these technologies.
Natural Gas Technologies: Energy Security, Environment and Economic Development (Kyoto) - 31 Oct. - 3 Nov 1993 published:11.10.94	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14234-7	Conference / workshop report with Status of R & D, Policies and measures	Fossil fuel - gas	Policy and decision makers	Unrestricted US$ 130	These conference proceedings contain an extensive assessment of the technology status and trends for future progress. An up-to-date presentation is given of natural gas technology and R&D projects, as well as of measures for overcoming barriers to effective technology deployment into the market.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
International Conference on Emerging Natural Gas Technologies (Lisbon) - 7-10 Oct. 1990 published: 7.6.1993	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-13919-2	Conference / workshop report with Status of R & D	Fossil fuel - gas Transport - road Buildings / habitat	Policy and decision makers Regional Western Europe and Others	Unrestricted US$ 47	These proceedings present technology development perspectives and priorities as they were discussed in a Conference that brought together senior natural gas industry executives, government officials, and R&D programme managers from IEA member countries.
New Electricity 21: Power Industry Technology and Management Strategies for the Twenty-First Century (Tokyo) - 12-14 May 1992 published: 7.3.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14073-5	Conference / workshop report with Status of R & D	Energy technologies	Policy and decision makers	Unrestricted US$ 95	These proceedings show that environmental and energy security concerns can be alleviated by new technologies spanning a wide range of activities from electronic controls for industrial equipment and consumer appliances to sophisticated emerging technologies such as superconductivity, solid state power electronics, and advanced telecommunication and information networks.
Industrial Energy Efficiency Policies and Programmes (Washington) - 26-27 May 1994 published: 8.12.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14304-1	Conference / workshop report with Programme report, Policies and measures	Industry - other	Policy and decision makers	Unrestricted US$ 75	These proceedings highlight some of the more successful public and private sector approaches to improving industrial energy efficiency.
Biofuels published: 7.12.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14233-9	Summary report / book with Status of R & D	Renewable - biomass	Policy and decision makers Engineers Global	Unrestricted US$ 28	This report gives a throrough analysis of the costs, energy use and greenhouse gas emissions involved in producing and using ethanol from maize, wheat and sugarbeet, biodiesel from rapeseed oil and methanol from wood. It compares these options with generating electricity from wood.
Hydropower, Energy and the Environment (Stockholm) - 14-16 June 1993 published 8.2.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14075-1	Conference / workshop report with Policies and measures, Status of R & D	Renewable - hydropower	Policy and decision makers	Unrestricted US$ 75	These proceedings cover regulatory approaches, hydropower technology and policy strategies, methods for increasing hydropower output while reducing environmental impacts, experience with technology cooperation and transfer, economics of hydropower upgrading and maintenance, and prospects for developing and adapting hydropower plants in a changing energy and environmental context.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Electric Vehicles: Technology, Performance and Potential published: 13.1.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-1405-8	Summary report / book with Status of R & D	Transport - road	Policy and decision makers Engineers	Unrestricted US$ 53	This publication presents an overview of the current status of electric vehicle and truck devlopments in IEA member countries.
Cars and Climate Change published: 5.4.1993	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-13804-8	Summary report / book with Status of R & D, Policies and measures	Transport - road	Policy and decision makers Engineers	Unrestricted US$ 60	This publication analyses trends in greenhouse gas emissions from motor vehicles and the opportunities for abatement.
Towards Clean and Fuel Efficient Automobiles / Vers la voiture propre à faible consomation (Berlin) - 25-27 March 1991 published: 11.5.1993	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-03868-X	Conference / workshop report with Status of R & D	Transport - road	Policy and decision makers Engineers Global	Unrestricted US$ 64	Some 50 papers are collected in this volume and show that even in the short term, existing and emerging technologies can bring about considerable improvements in the automobile sector.
The Urban Electric Vehicle - Policy Options, Technology Trends, and Market Prospects (Stockholm) - 25/27 May 92 published: 25.9.92	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-13752-1	Conference / workshop report with Policies and measures, Status of R & D	Transport - road	Policy and decision makers	Unrestricted US$ 72	The report contains papers and discussion notes which examine the impacts of electric vehicles on energy and the urban environment.
Reconciling Transportation, Energy and Environmental Issues: The Role of Public Transport (Budapest) - 30 May-1June 1994 published: 15.5.1995	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14411-0	Conference / workshop report with Policies and measures	Transport - train Transport - road	Policy and decision makers	Unrestricted US$ 124	Through this OECD/ECM/IEA/EC forum, key public and private sector actors joined forces to seek ways to develop and implement public transportation options that are clean, fuel-efficient and environmentally sound.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Demand-side Management: Opportunities and Perspectives in the Asia-Pacific Region (Seoul) - 4-5 Nov. 1993 published: 8.2.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14060-3	Conference / workshop report with Policies and measures		Policy and decision makers Regional Asia and Pacific	Unrestricted US$ 42	The Conference proceedings address issues such as: the design and implementation of demand-side management programmes, barriers to increased efficiency, and the potential for adapting the experiences of industrialized countries to developing countries in the Asian region.
Global Methane and the Coal Industry published: 5.8.1994	International Energy Agency 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14203-7	Summary report / book with Status of R & D	Fossil fuel - coal	Policy and decision makers Engineers Global	Unrestricted US$ 24	This is the first part of a two-part report on methane emissions from the coal industry and coalbed methane recovery and use which constitutes a comprehensive reference book on this increasingly important topic linked to coal exploitation and use. Part II is concered with "Global Coalbed Methane Recovery and Use: Current Practices and Prospects for Expansion".
International Tropical Timber Organization						
Technical Workshop to Explore Options for Global Forestry Management April 1991	International Tropical Timber Organization Pacifico-Yokohama, 1-1-1 Minato-Mirai, Nishi-Ku Yokohama 220 Japan	Conference / workshop report with Status of R & D	Agricultural and forestry practices	Policy and decision makers Global	Unrestricted	The workshop report also contains papers on climate change.
Latin American Energy Organization						
SUPER / OLADE-BID, Model for Electricity Planning	Latin American Energy Organization Av. Occidental, Sector San Carlos Casilla 17-11-6413 Quito Ecuador	Information system for PC	Energy technologies	Engineers Regional Latin America and Caribbean	Unrestricted	To improve the analytic tools of electric energy generating systems, a computerized model with a graphical interface was developed which enables government agencies and private enterprises to plan electricity generation and transmission.
Organisation for Economic Co-operation and Development (OECD)						
Energy Conservation Policies and Technologies in Japan 1994	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France Doc. No. OECD/GD(94)32	Article / leaflet / booklet with Policies and measures	Transport - road Industry - minerals Industry - chemicals Industry - iron/steel Industry - paper	Policy and decision makers National Japan	Unrestricted	This paper discusses the energy conservation policies of Japan from 1945 until the present date.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Export Promotion and Environmental Technologies OECD Environment Monographs No. 87 1994	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France Doc. No. OECD/GD(94)9	Article / leaflet / booklet with Policies and measures	Fossil fuels Renewables Buildings / habitat Industry	Policy and decision makers Global	Unrestricted	This report, based on a survey of OECD Member countries, is intended to clarify the relationship between government export promotion activities and the export of environmental technologies.
Promoting Cleaner Production in Developing Countries 1995	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14631-8	Summary report / book with Policies and measures, Other information sources, Cost-effectiveness study	Industry - other	Policy and decision makers Global	Unrestricted	
Summary Record of OECD Workshop on Development Assistance and Technology Co-operation for Cleaner Industrial Production in Developing Countries 28-30 Sept. 1994, Hanover, Germany	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France Doc. No. OECD/GD(95)42	Conference / workshop report with Policies and measures	Environmentally sound technologies	Policy and decision makers Global	Unrestricted	
Technologies for Cleaner Production and Products, Towards Technological Transformation for Sustainable Development 1995	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14473-0	Summary report / book with Policies and measures	Fossil fuels Renewable - other Transport Agricultural and forestry practices Industry - other	Policy and decision makers Regional Western Europe and Others	Unrestricted	This report discusses government policy options to promote cleaner production technologies and products in industry, energy, agriculture and transportation.
Towards Sustainable Agricultural Production: Cleaner Technologies 1994	Organisation for Economic Co-operation and Development 2, rue André-Pascal F-75775 Paris Cedex 16 France ISBN 92-64-14188-X	Summary report / book with Methods and practices, Case studies, Status of R & D, Policies and measures	Agricultural and forestry practices	Policy and decision makers Businesses Regional Western Europe and Others	Unrestricted	This report looks at the major environmental impacts of conventional agricultural practices, environmentally friendly technologies and practices, the obstacles to the greater diffusion of cleaner production technologies and government options to move the agricultural sector towards sustainability.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Other institutions and organizations *						
African Energy Policy Reseach Network						
Energy Management in Africa 1992	African Energy Policy Reseach Network P.O. Box 30979 Ole Odume Road, Off Ngong Road Nairobi Kenya Edited by M.R. Bhagavan and S.Karekezi	Summary report / book with Case studies, Policies and measures	Energy technologies	Policy and decision makers Regional Africa	Unrestricted	This book describes energy management in sub-Saharan Africa by case studies of assorted energy fields in Lesotho, Ethopia, Kenya and Mauritius.
Asian Institute of Technology (AIT)						
Environmental Systems Information Center (ENSIC)	Asian Institute of Technology G.P.O. Box 2754 Bangkok 10501 Thailand http://www.ait.ac.th/clair/ensic1.hlm	Institution, Information system - mail queries - on-line, Web site, with Status of R & D, Demonstration objects, Product descriptions, Case studies, Methods and practices, Workshops / training	Waste management Water supply / sanitation	Policy and decision makers Engineers Regional Asia and Pacific	Unrestricted	ENSIC was created with the objective of providing developing countries with needed information on water supply, environment and sanitation through publications such as twice-yearly reviews, newsletters, do-it-yourself manuals, directory of Environmental Assessment Studies and through an on-line database containing bibliographical data and abstracts.
Regional Energy Resource Information Center (RERIC)	Asian Institute of Technology G.P.O. Box 2754 Bangkok 10501 Thailand http://www.ait.ac.th/clair/reric1.html	Institution, Information system - mail queries - on-line, web site with Status of R & D, Demonstration objects, Product descriptions, Policies and measures, Workshops / training	Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - hydropower Renewable - biomass Renewable - other Buildings / habitat	Policy and decision makers Engineers Businesses General public Regional Asia and Pacific	Unrestricted	The Center collects and repackages local information on energy and renewable energy for dissemination to users worldwide. A wide range of publications on local technologies and workshop proceedings, access to bibliographical energy database and training courses and consultancy on energy information services are provided.

* In some cases this information was provided directly from the source, while in other cases it was obtained through third party sources as, such as electronic databases.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Association for Progressive Communications (APC)						
EcoNet	Association for Progressive Communications 18 De Boom Street San Francisco CA 94107 United States of America http://www.econet.apc.org/econet/	Information system - on-line, Web site with Other information sources	Environmentally sound technologies	Policy and decision makers NGOs General public Global	Unrestricted	EcoNet, a member of APC, is an on-line service to provide free and balanced communication, which includes e-mail and electronic conference services. A World Wide Web site locates and organizes other web sites, which provide information on environmental issues including environmentally sound technologies and climate change.
Fachinformationszentrum (FIZ)						
STN International - The Scientific & Technical Information Network	Fachinformationszentrum P.O. Box 2465 D-76012 Karlsruhe Germany http://www.fiz-karlsruhe.de/stn.htm	Information system - on-line with Other information sources	Fossil fuels Renewables Nuclear Fuel cells Energy transfer Energy storage Industry	Scientists Policy and decision makers Engineers Businesses General public Global	Unrestricted DM 50 to DM 445 per hour connect time plus opening fees	STN is an interface for users of more than 100 databases on-line of which 20 are covering environmental issues, e.g. "ENERGY" of the U.S. Department of Energy or "ENERGIE" of the FIZ, Karlsruhe.
Gambia Ministry of Trade, Industry and Employment						
The Gambia Renewable Energy Centre (GREC)	Ministry of Trade, Industry and Employment Central Bank Building Buckle Street Banjul Gambia	Institution with Demonstration objects, Case studies, workshops / training	Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - biomass	Policy and decision makers Engineers Scientists National Gambia	Unrestricted	The Centre assists the Ministry of Economic Planning and Industrial Development in the preparation and implementation of projects such as solar homes, solar water pumping systems, and wind turbines.
German Development Institute						
Strengthening Technological Capability in Developing Countries, Lessons from German Technical Cooperation 1994	German Development Institute Hallerstrasse 9 D-10587 Berlin Germany ISBN 3-88985-125-8	Summary report / book with Policies and measures, Case studies	Environmentally sound technologies	Policy and decision makers	Unrestricted	Based on evaluations of German technology-oriented cooperation projects in six countries (Bolivia, Argentina, United Republic of Tanzania, Zimbabwe, Indonesia, Thailand), the study develops in particular an outlook on the possibilities of effectively strengthening technological capability in developing countries through development cooperation. The conclusions worked out in this study might also prove important for cooperation with countries in the process of transformation.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Global Network of Environment and Technology (GNET)						
Global Network of Environment and Technology (GNET)	The Global Network of Environment and Technology 7010 Little River Turnpike, Suite 430 Annandale VA 22003 United States of America MSN: go GNET http://www.gnet.org	Information system - on-line, Web site with Other information sources, Policies and measures, National environmental laws	Environmentally sound technologies	Policy and decision makers Scientists Businesses Global	Unrestricted	GNET provides worldwide access to timely information on environmental products and services, marketing opportunities, contracts, government programmes, policy and law, current industry news, and business assistance resources via the World Wide Web with an emphasis on hazardous waste.
International Academy of the Environment						
Energy, Environment and Development Sept. 1995	International Academy of the Environment 4, chemin de Conches CH-1231 Geneva Switzerland Author: Professor Jose Goldenberg	Summary report / book with Multiple technology assessment, Policies and measures	Fossil fuels Renewables Nuclear Transport Buildings / habitat Agricultural and forestry practices Industry Direct CO_2 removal	Policy and decision makers General public Global	Unrestricted	This draft publication comprises physical concepts of energy and development, a factual description of the present, energy-related problems of evironmental degradation, their causes and technical solutions as well as general and specific policies.
Island Press						
Renewable Energy, Sources for Fuels and Electricity 1993	Island Press Suite 300 1718 Connecticut Avenue, NW, Washington D.C. 20009 United States of America edited by Thomas B. Johansson et al. ISBN 1-55963-139-2	Summary report / book with Multiple technology assessment, Status of R & D, Cost-effectiveness study	Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - hydropower Renewable - biomass Renewable - other	Policy and decision makers Engineers Scientists	Unrestricted	Prepared as an input to the UNCED process, this report assesses the technical and economic prospects for making fuels and electricity from renewable energy sources.
Kluwer Academic Publishers						
Climate Change: Significance for Agriculture and Forestry, Systems Approaches Arising from an IPCC Meeting 1994	Kluwer Academic Publishers Spuiboulevard 50 P.O. Box 17 NL-3300 AA Dordrecht Netherlands ISBN 0-7923-2933-3 Reprint from "Climate Change", Volume 27, Nr.1,1994	Summary report / book with Policies and measures, Status of R & D	Agricultural and forestry practices Adaptation	Policy and decision makers Global	Unrestricted	This book arose from an international workshop held at Canberra, Australia, in 1992 under the auspices of the former IPCC Working Group III - Agriculture, Forestry and other Human Activities Sub-Group (AFOS).The workshop promoted greater understanding of the major sources and sinks of greenhouse gases within intensive and extensive cropping and animal production systems, and of agroforestry. Subsequently, a number of leading speakers were approached to encapsulate the concepts discussed and developed at the workshop. Their articles are published in this book.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Natural Resources Canada						
Canadian Directory of Efficient and Alternative Energy technologies frequently updated	Natural Resources Canada 580 Booth Street (18th flr.) Ottawa ONT. KIA OE4 Canada	Information system for PC with Company profiles and capabilities	Energy technologies	Engineers Businesses National Canada	Unrestricted	This computerized Directory includes manufactures, distributers and suppliers of efficient and alternative energy products and services located in Canada. It is available on computer diskette.
Netherlands Energy Research Foundation						
Prospects for Energy Technology in the Netherlands, Volume 1: Evaluation of the cost-effectiveness of Energy technologies under a range of long term-future conditions August 1995	Netherlands Energy Research Foundation P.O. Box 1 NL-1755 LE Petten Netherlands Facility Service Report No. ECN-C--95-002	Summary report / book with Cost-effectiveness study	Fossil fuel - gas Fossil fuel - oil Fossil fuel - coal Renewable - solar thermal Renewable - photovoltaic Renewable - wind Renewable - hydropower Renewable - biomass Renewable - other	Policy and decision makers National Netherlands	Unrestricted Dfl. 35,- Postbank account No. 3977703	This study is intended to identify the technologies likely to play a role in future energy systems. The methodology followed, scenario assumptions and main results are included.
Prospects for Energy Technology in the Netherlands, Volume 2: Technology characterizations and technology results August 1995	Netherlands Energy Research Foundation P.O. Box 1 NL-1755 LE Petten Netherlands Facility service Report No. ECN-C--95-039	Summary report / book with Status of R & D, Cost-effectiveness study	Fossil fuels Renewables Nuclear Fuel cells Energy storage Transport Buildings / habitat Waste management Industry Direct CO_2 removal Future technologies	Policy and decision makers Scientists Engineers National Netherlands	Dfl. 35,- Postbank account No. 3977703 Unrestricted	This publication provides descriptions of Energy technologies in the Netherlands in a common format, including cost-effectiveness accounting tables.
Plataforma Solar de Almeria (PSA)						
Annual Technical Report 1994	Plataforma Solar de Almeria Apartado 22 E-04200 Tabernas Spain Ref. PSA-TR03/95	Summary report / book with Status of R & D, Demonstration objects, Programme reports	Renewable - solar thermal	Scientists General public	Unrestricted	The PSA provides a solar infrastructure and experienced technical development teams for industrial and institutional solar research, development and demonstration. The projects are described in this report.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Solar Energy Research and Education Foundation (SEREF)						
Solstice by The Center for Renewable Energy and Sustainable Technology (CREST)	Solar Energy Research and Education Foundation 777 N. Capitol Street, N.E., Suite 805 Washington DC 20002 United States of America http://solstice.crest.org	Information system - on-line, Web site with Status of R & D, Demonstration objects, Product descriptions, Multiple technology assessment, Case studies, Cost-effectiveness study, Policies and measures, Other information sources	Renewables Energy storage Transport - air/water Transport - train Transport - road Buildings / habitat	Policy and decision makers General public Businesses Engineers Global	Unrestricted	SOLSTICE is an international electronic clearing-house for publicly accessible, state-of-the-art information on renewable energy and energy efficiency, the environment and sustainable development.
The Center for Renewable Energy and Sustainable Technology (CREST)	Solar Energy Research and Education Foundation 777 N. Capitol Street, N.E., Suite 805 Washington DC 20002 United States of America http://www.crest.org	Institution, Information system - on-line Web site with Status of R & D, Demonstration objects, Product descriptions, Multiple technology assessment, Case studies, Cost-effectiveness study, Policies and measures, Other information sources, Workshops / training	Renewables Energy storage Transport - air/water Transport - train Transport - road Buildings / habitat	Policy and decision makers General public Businesses Engineers National United States of America	Unrestricted	CREST is an education and training facility created and operated by The Solar Energy Research and Education Foundation (SEREF), pursuing three principal projects: on-site training and education workshops, on-line distance learning and training on SOLSTICE computer file server, on-disc training and education through interactive multimedia applications on CD-ROM.

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
United Kingdom Department of Trade and Industry						
Global Climate Change. The Role of Technology Transfer. A Report for the United Nations Conference on Environment and Development 1991	Department of Trade and Industry 151 Buckingham Palace Road London SW1W 9SS UK prepared by Touche Ross, Management Consultants	Summary report / book with Policies and measures, Case studies	Energy technologies	Policy and decision makers Global	Unrestricted	A report on technology transfer processes.
United States Country Studies Program						
Greenhouse Gas Mitigation Assessment: A Guidebook 1995	United States Country Studies Program 1000 Independence Avenue, SW PO-63 Washington DC 20585 United States of America Lead Authors: Jayant Sathaye and Stephen Meyers published by Kluwer Academic Publishers ISBN 0-7923-3781-6	Summary report / book with Methods and practices		Policy and decision makers Scientists Global	Unrestricted	This is a guidebook for conducting an assessment of options for addressing climate change. Drawing on the expertise of 25 specialists, it provides guidance for analysis of greenhouse gas mitigation options in energy, forestry, agriculture and waste management. The book also discusses selected models that may be applied to support an analysis and information on technologies.
United States Department of Energy						
Energy Efficiency and Renewable Energy Clearinghouse (EREC)	Department of Energy 1000 Independence Ave, SW Washington DC 20585 United States of America P.O. Box 3048, Merrifield, VA 22116, USA e-mail: energyinfo@delphi.com http://www.nrel.gov/documents/erec_fact_sheets/erec.htm	Information system - mail queries - on-line, Web site with Product descriptions, Status of R & D	Renewables Buildings / habitat	General public Businesses Engineers National United States of America	Unrestricted	

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
Energy Efficiency and Renewable Energy Network (EREN)	Department of Energy 1000 Independence Ave. SW Washington DC 20585 United States of America http://www.eren.doe.gov	Information system - on-line, Web site with Other information sources	Fossil fuels Renewables Transport Buildings / habitat Industry	Policy and decision makers Engineers Scientists Businesses General public Global	Unrestricted	This web site locates and organizes qualitative information about renewable energy and energy efficiency technologies. It has links to over 200 web sites.
United States Environmental Protection Agency						
Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network (TTN)	United States Environmental Protection Agency 401 M. Street S.W. Mail Code PM-2122 Washington DC 20460 United States of America Modem (8N1): (919)541-5742 telnet://ttnbbs.rtpnc.epa.gov	Information system - on-line with Status of R & D, Policies and measures, National environmental laws, Workshops / training	Fossil fuels Waste management Agricultural and forestry practices Industry	Engineers Scientists Policy and decision makers Businesses General public National United States of America	only phone or internet fees Unrestricted	The OAQPS provides information on air pollution through reports, manuals, newsletters, support centres, workshops, self-instructional courses and the Technology Transfer Network(TTN). The TTN contains 18 on-line bulletin boards with air pollution information including monitoring, air toxics, emission factors, small business assistance, laws and regulations.
Options for Reducing Methane Emissions Internationally, Volume I: Technological Options for reducing Methane Emissions, Report to Congress July 1993	United States Environmental Protection Agency 401 M. Street S.W. Mail Code PM-2122 Washington DC 20460 United States of America EPA 430-R-93-006	Summary report / book with Multiple technology assessment, Status of R & D	Fossil fuels Renewable - biomass Waste management Agricultural and forestry practices	Policy and decision makers Engineers Global	Unrestricted	The report contains detailed and comprehensive descriptions of technologies and practices for reducing methane emissions from oil and natural gas systems, coal mining, landfills, ruminant livestock and livestock manure.
World Conservation Union (IUCN)						
Reefs at Risk - Coral reefs, Human Use and Global Climate Change October 1993	The World Conservation Union, International Union for Conservation of Nature and Natural Resources rue Mauverney 28 CH-1196 Gland Switzerland	Article / leaflet / booklet with Programme report		Policy and decision makers General public Global	Unrestricted	After describing the general problems of reefs in the changing climate, the brochure reports on the "long-term global monitoring system of coastal and near-shore phenomena related to climate change".

Title	Organization	Information	Technologies	Users	Access	Remarks (continued)
World Energy Council (WEC)						
Global Energy Perspectives to 2050 and Beyond 1995	World Energy Council 34 St. James's Street London SW1A 1HD UK	Summary report / book with Status of R & D, Policies and measures	Fossil fuels Renewables Nuclear	Policy and decision makers Global	Unrestricted	This study examines global long-term energy perspectives, their constraints and opportunities by formulating and analysing scenarios.
Local and Regional Energy-Related Environmental Issues 1995	World Energy Council 34 St. James's Street London SW1A 1HD UK	Summary report / book with Case studies, Policies and measures	Fossil fuels Renewable - wind Renewable - hydropower Renewable - biomass Energy transfer Transport - road Industry - paper Industry - pollution control	Policy and decision makers Regional	Unrestricted	Selected regional and local cases of major energy-related environmental issues in developing countries and former centrally planned economies are described. The case studies include a description and assessment of the specific problems with realistic and cost-effective recommendations for improvement.
World Energy Efficiency Association (WEEA)						
International Directory of Energy Efficiency Institutions 3rd edition 1995	World Energy Efficiency Association 1400 16th Street, NW, Suite 340 Washington DC 20036 United States of America	Summary report / book with Research institutions, Other information sources		Policy and decision makers Engineers Scientists Global	Unrestricted	The Directory comprises government agencies, intergovernmental organizations, non-governmental organizations, international financial institutions, and private firms that deal with the subject of energy efficiency.

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